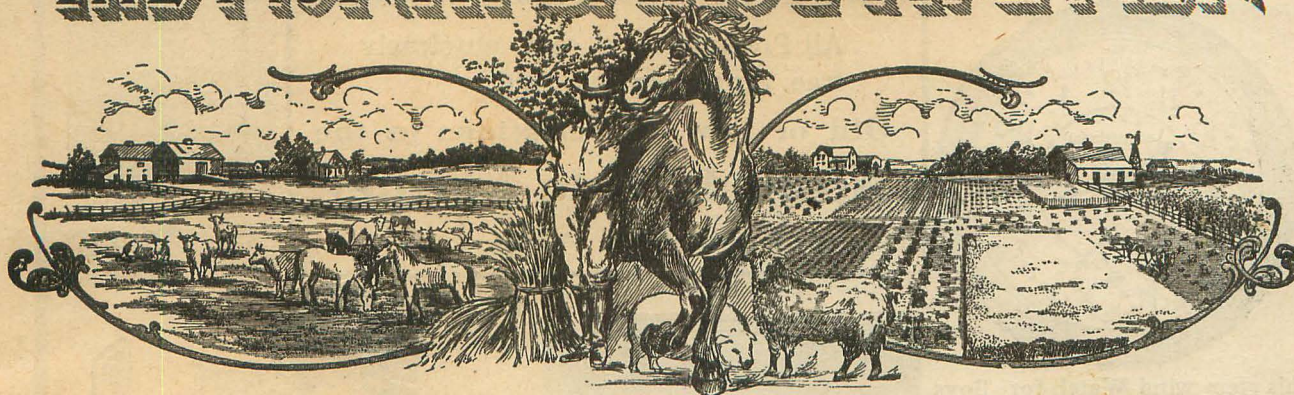


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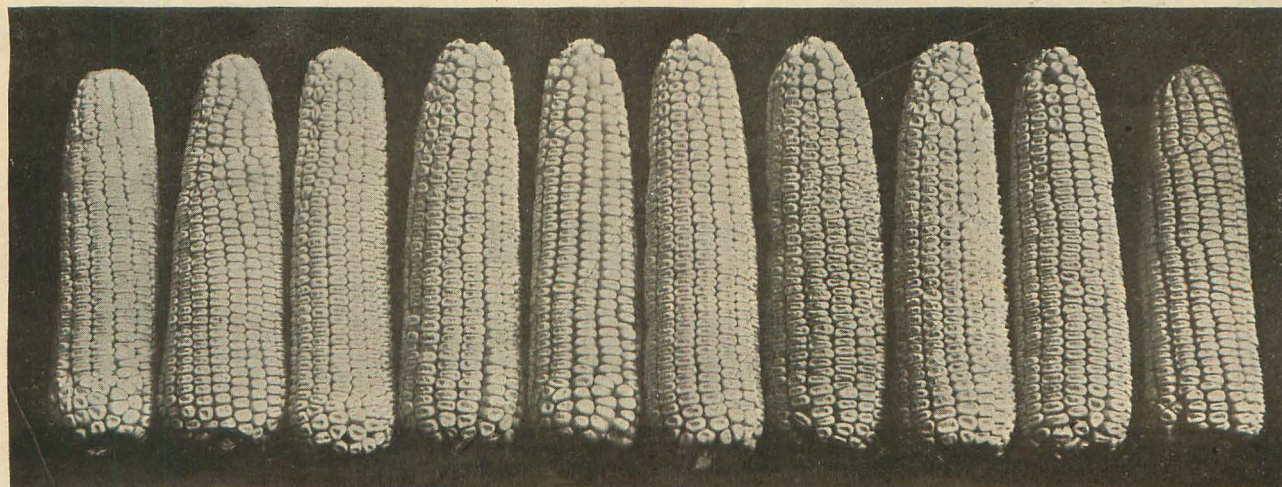
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Vol. 12 · No. 8

Lisbon, North Dakota, February 15, 1911

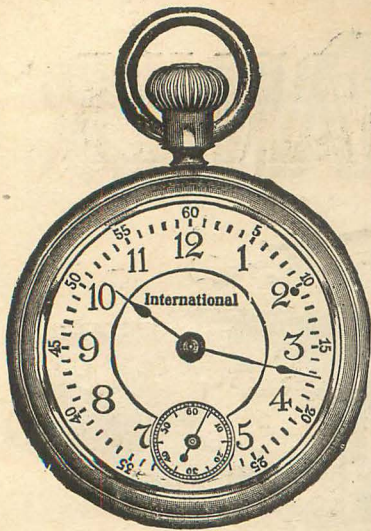
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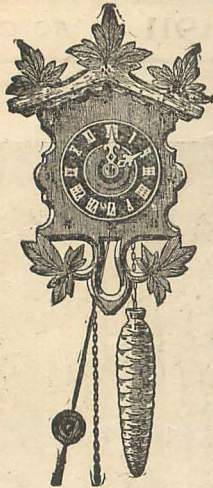


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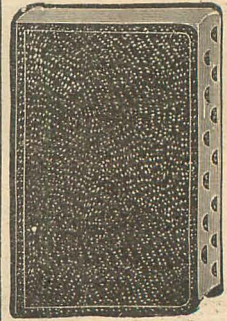
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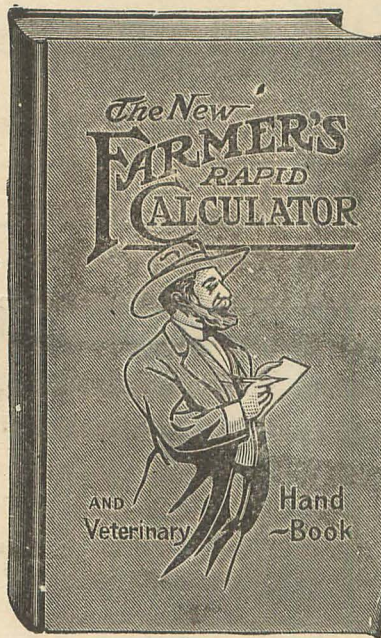
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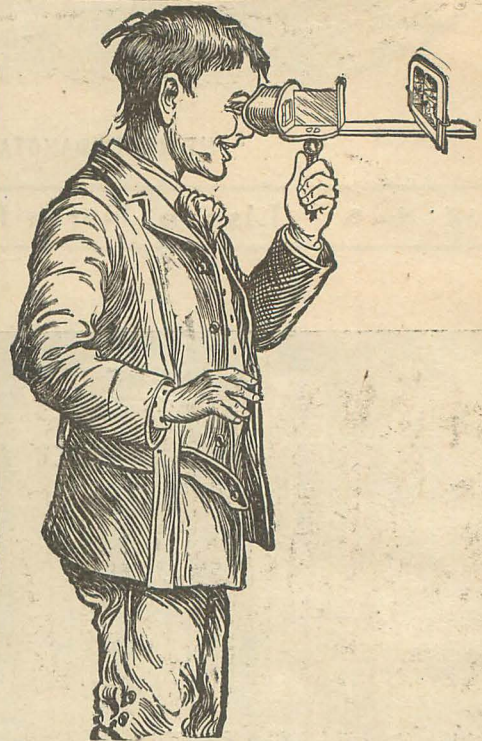
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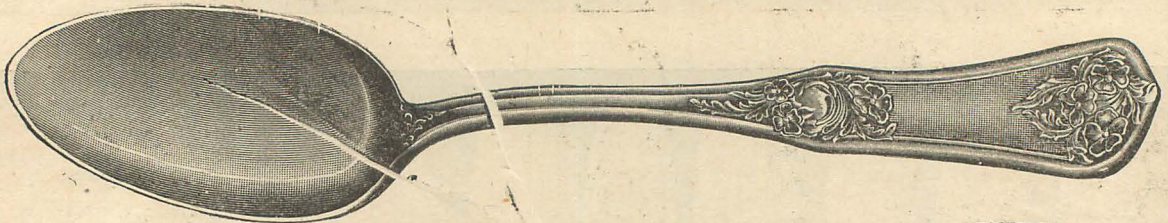
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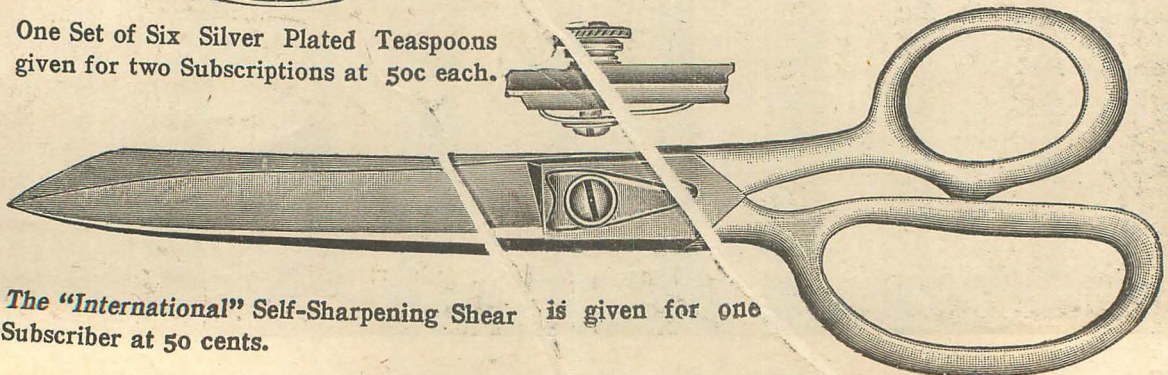
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THE NORTH DAKOTA FARMER

Vol. 12, No. 8

LISBON N. D., FEBRUARY 15, 1911

50 Cents a Year

Alfalfa

Abstract of Paper Read by L. R. Waldron, Fargo, N. D.

Tremendous interest is now being taken in the alfalfa crop. This interest is due to various causes, among them being the quality of the crop produced, the character of the farming which the introduction of the crop signifies, still others to the quality impressed upon the soil by the alfalfa plant.

Alfalfa is the oldest known forage plant, having been introduced into Greece by the Persians in the fifth century, B. C. Forage crops, unlike human food stuffs, were brought into cultivation from the wild state at a comparatively late date. There have been three introductions of alfalfa into this country, which have left their permanent mark. One of these was into California, from Chili, in the fifties, another into the Atlantic States from Europe in the 18th century, and the third into Minnesota from Germany in the late fifties.

Introduction of Alfalfa

The introduction of alfalfa from Chili into California in 1854 has extended until there are millions of acres devoted to the crop. The introduction of Grimm alfalfa into Minnesota, only three years later, is just beginning to bear fruit. There are probably less than 2000 acres of Grimm alfalfa under cultivation. It is manifest that it is the Grimm alfalfa that will be the alfalfa for the middle northwest, and for several other of the northern states.

Alfalfa has been cultivated in a limited way in North Dakota for 20 years. Due to the abundance of the open range, the necessity of tame fodder plants has not been felt, until within the last few years. The eastern sections of the state, that are losing out in grain production, are now looking out for forage plants.

The alfalfa plant is a deep-rooted perennial, having a tap root with lateral feeders. From the crown at the surface of the ground there arise many stems, often more than 100. When one growth is ready for the sickle, it is ready to send up a renewed growth, and so one

crop follows another so long as moisture and temperature conditions are favorable. Its wonderful root development makes the plant of great importance in North Dakota, for in this we see a wonderful ability to resist drouth if the plants are so grown that they are able to attain full development.

Composition of Alfalfa

The plant should appeal to North Dakota farmers because of its composition. The alfalfa plant is full of the lean meat principle. In other words, it contains an abundance of protein, or flesh forming element of food. Alfalfa hay contains from $1\frac{1}{2}$ to $2\frac{1}{2}$ times as much protein as prairie hay.

Comparing alfalfa with prairie hay and wheat bran we find that the protein in 100 pounds of prairie hay is worth 25 cents, the protein in 100 pounds of alfalfa is worth 72 cents and the protein in 100 pounds of wheat bran is worth 83 cents. If prairie hay is worth \$11.05 per ton, alfalfa would have a value of \$19.60 per ton and wheat bran would have a value of \$22.25 per

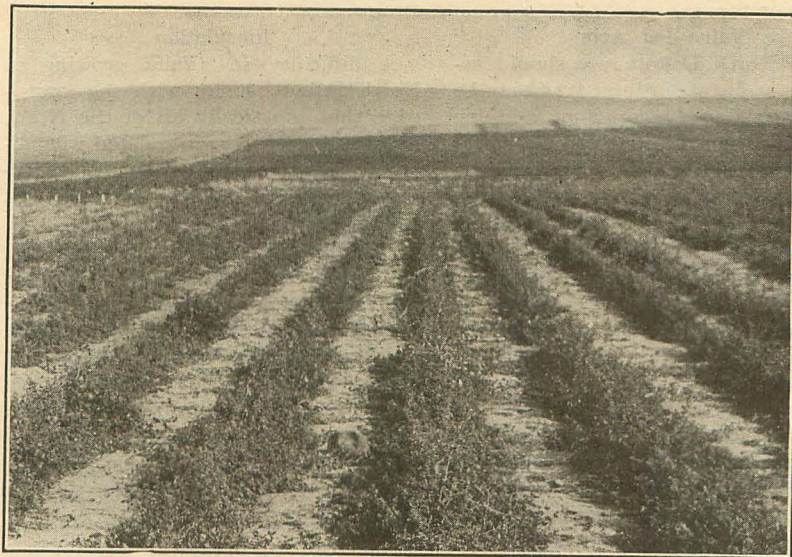
ton. Alfalfa hay practically always sells for less than its calculated value.

If the comparative values of alfalfa and prairie hay were extended to North Dakota fields, and the results secured per acre, the margin would be much greater than indicated. Alfalfa will probably yield five times as much hay per acre as will the native upland prairie.

Alfalfa is preeminently a protein feed, and is shown to the best advantage where protein is demanded. For growing stock and milk cattle it has no superior, nor is it equalled by any other forage plant.

For Fattening Stock

An experiment was made in Nebraska and it was found that calves fed on alfalfa hay gained nearly twice as much as those fed on prairie hay. It took 10 pounds of alfalfa to make one pound of gain, as against 17 pounds of prairie hay. Along with alfalfa, it took $1\frac{1}{2}$ pounds of grain for each pound of gain, while with the prairie hay it took 3 pounds of grain to make one pound of gain. With the alfalfa fed calves each 100 pounds of



Medicago Falcata in Rows, Dickinson Experiment Station.

gain cost \$2.80, and with the calves fed on prairie hay each 100 pounds of gain cost \$4.50. The profit on the alfalfa fed calves in the spring was more than twice as much as was the profit on the calves fed on prairie hay.

For Milk Production

Alfalfa is superior as a milk producer. In Illinois it was found that alfalfa had remarkable merits in milk production, as compared with timothy. Each ton of alfalfa hay fed to the cows produced a milk flow of 834 pounds over and above the milk flow of the cows fed on timothy. At the selling price of the milk, \$1.30 per hundred pounds, the increase of milk due to the alfalfa hay equaled \$10.48 more per ton than from the timothy. Thus, with timothy hay at \$10.00 per ton, alfalfa would be worth more than \$20.00 per ton.

Value Per Acre

If, in North Dakota, we should assume the value of our tame grasses to be worth \$10.00 per acre from a dairy standpoint then the alfalfa would easily be worth \$40.00 per acre. In Illinois it was considered that with timothy worth \$15.00 per acre, alfalfa would be valued at over \$83.00 per acre. We begin to see why it is that alfalfa excites the interest which it does in this country. A few have found out the value of the plant and have spread the good news from neighbor to neighbor until at the present time there is hardly a farmer but has more or less interest in the crop.

Alfalfa in Relation to Grain Production

The increased growing of alfalfa in North Dakota will do marvelous things in increasing the fertility of the soil, putting the land in good physical condition and getting rid of certain diseases and weeds which are now lingering in the soil from year to year. These results will have remarkable influence upon the grain yields, which, instead of decreasing from year to year as they are at present, will gradually increase.

By means of the bacteria associated with the alfalfa, the plant is able to utilize raw nitrogen of the air as a plant food. Alfalfa uses the increased stores of available nitrogen in the soil, and by its system of deep rooting brings near the surface certain quantities of potash and phosphoric acid. As the deep rooting alfalfa plants bore into the soil they open up channels for the access of moisture. Thus the soils become moister down to a greater depth than was previously possible.

Alfalfa Adapted to the State

Alfalfa is naturally adapted to North Dakota, and to show what it will do for the state when once it is a staple crop, it is only necessary to point out the effects it has had upon Kansas. The agricul-

tural conditions of Kansas have been almost transformed in the last 20 years, almost solely because of the introduction of the alfalfa crop. Certain lands in Kansas a few years ago sold for from \$2 to \$5 per acre, which are now selling at from \$30 to \$75 per acre, due to the cultivation of alfalfa. Similar results were found in other portions of the country.

Needs of Alfalfa

Alfalfa demands a sweet, well-drained soil. North Dakota soils are generally of this nature. A hardy alfalfa must be grown, but the North Dakota farmers have this in the Grimm variety. This variety seems to be hardy enough for all practical purposes. At Dickinson it killed out less than 5 per cent against an average of over 70 per cent for 68 strains.

Inoculation

A difficulty in alfalfa growing in North Dakota comes with the knowledge that practically all of the North Dakota soil must be inoculated with alfalfa germs before the alfalfa will be successful. Up to the present time but very few farmers have taken the pains to inoculate their soil or treat their seed, and as a consequence their alfalfa has generally been a failure. Inoculation by means of soil is the simplest method. **Inoculation is Necessary for Successful Alfalfa Culture in North Dakota.** Exceptions to this merely prove the rule.

Drouth Resistance

The question of drouth resistance must also be considered when growing alfalfa in this state. Drouth resistant strains can be obtained, but for the present much better progress can be made by properly handling the crop.

The alfalfa plant, because of its great root system, is naturally drouth resistant. The important thing is to allow its roots to develop so that they can reach down and obtain water from the deeper layers. This development is prevented where the alfalfa stand is made too thick. Excessive thickness in stand is probably the main fault in the majority of the North Dakota fields or patches.

Under upland conditions for at least a large area of the state 5 pounds of choice, hardy seed sown with a drill, is probably sufficient. This is about one-third of the amount that is commonly recommended to sow. Fifteen pounds of seed per acre would, if all seeds grew, give 720 plants per square yard.

At the Dickinson station we found that in 1910, five plants per square yard gave us the maximum hay yield over all other rates of planting. This yield amounted to nearly 2½ tons per acre.

Thus it is evident that we have much to learn of what constitutes a proper alfalfa stand for North Dakota. In the thinner stands the alfalfa roots are much better developed and are able to

draw upon larger supplies of moisture. This being the case, more alfalfa growth is produced.

Cultivation

The cultivation of alfalfa in North Dakota will be advisable, to a certain extent. Perhaps the discing of the field in the spring will be sufficient, but in the drier soils the fields will need to be disced after each cutting. In place of the disc, the alfalfa renovator may be preferable.

Alfalfa growing in North Dakota will be successful. Care must be taken to inoculate the soil and the stand must be thin enough to produce good yields of hay. Under proper management the average yield of alfalfa hay in North Dakota should amount to 2 tons per acre per year.

A FARMERS' DREAM

A Ward County Farmer

Suppose, dear reader, that you should lay awake some stormy night and dream that you were making at our thru North Dakota. In one county the farmers had planted five rows of willows north and south thru every quarter section of land. That in this county blizzards were unknown to the younger generation, and that the farmers did not have to remain at home on windy days; and that consolidated schools were a success because it was safe to send the children, and that in this county settlers were coming in instead of moving out.

Suppose farmers raised more grain because the wind did not thresh it out as soon as it began to ripen, and because the snow had stopped on the high places where it was needed instead of blowing into the potholes that were already too wet, and gathering around buildings and stacks; and that the trees in the field did not bother in the cultivation of crops because the land was worked in strips just the same as it was in your own county where there wasn't a sign of a tree.

Would you not conclude then and there to prepare ground on your own farm for such wind-breaks, and would you not conclude to plant, cultivate, and do everything in your power to keep them growing as fast as possible? Would you not write your representative at Bismarck, and ask him to get a law passed that required every land owner to plant a certain number of wind-breaks thru his farm, and requiring him to cultivate and keep them growing, or else to pay a treeless farm tax?

Make the N. D. Farmer a gift to your friend and receive one of the premiums on page 2.

CONCRETE FEEDING FLOORS AND BARN-YARD PAVEMENTS

Make Great Saving in Feed, Time and Labor

The saving principle of feeding floors has long been recognized by successful breeders and feeders of livestock. The trouble, heretofore, has been to obtain an entirely satisfactory material for floor construction.

Disadvantages of Wooden Floors

Wooden floors kept the feed out of the mud and dust and not only saved every particle of grain, but also prevented wheezing coughs and otherwise temporarily improved the health of the animal. However, in a short time, the best wooden floors rotted out and became infected with disease germs. Often floors had to be burned to free the farm of hog cholera.

Advantages of Concrete

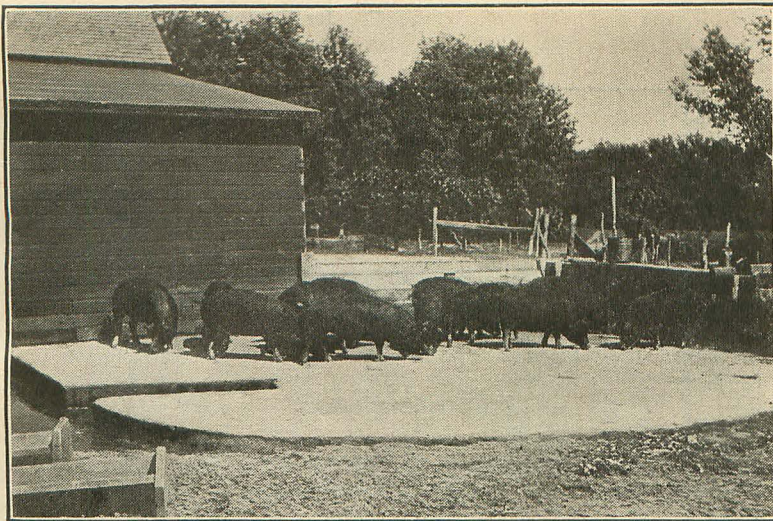
In concrete the farmer and ranchman have found an ideal floor material. Such floors not only effect a saving in feed, a shortening in the time of fattening and a decrease in labor, but also

Drainage Foundation

Excavate to a depth of 12 inches for the drainage foundation, and around the outside edges of the entire floor dig a trench 12 inches wide and 18 inches deep. (This trench, filled with concrete, prevents hog wallows from undermining the floors and keeps the rats from nesting under it.) Fill all of this space (except the trench) to the natural ground level with well tamped coarse gravel, crushed rock, tile culls or brick-bats. This fill forms the drainage foundation as for sidewalks.

Grading the Floor

The floor must be graded or sloped so that water will not collect on it in the winter and so that the manure washings may be caught by the gutters and run to the water-tight concrete manure pit. (To shape the gutter, make a mold or templet by rounding the corners on the flat side of a 6-foot length of 4 by 6-inch timber.) A gentle slope, toward the low corner, of $\frac{1}{8}$ to $\frac{1}{4}$ of an inch for each foot of length or width is sufficient. This is secured by the use of a heavy grade stake at each corner of the floor



afford perfect protection to the health of the animal. Concrete floors do not soak up water and therefore cannot become infected with disease germs. Their surfaces can be easily cleaned and thoroughly disinfected with oils and dips. Rats cannot nest under them. Careful tests have shown that concrete floors, thru the saving of grain and manure alone, pay for themselves in the short period of one year.

How to Build Feeding Floors

Feeding floors are merely several sidewalks laid side by side, and the same general rules of construction apply to them. Choose a site in the lot where the ground is slightly sloping, well drained and wind-protected, and convenient to feed and water.

a straight-edge or a grade line, and a spirit level.

It is an advantage to have a feeding floor its full thickness above ground. Make light floors 4 inches and floors subject to heavy loads 6 inches thick. For the forms use 2-inch lumber of a width equal to the floor thickness. Begin on a low side of the floor. Mark the grade height of each corner stake and set the forms to a grade cord stretched from stake to stake. Use only good materials and mix the concrete 1 part Portland cement to $2\frac{1}{2}$ parts sand to 5 parts screened gravel or crushed rock, or 1 part Portland cement to 5 parts bank-run gravel. Measure the materials exactly count 1 sack of cement equal to 1 cubic foot.



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A second short flax crop keeps linseed oil up, but the increase in price in pure white lead paint is not so great as you may fear.

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pentine, 1 pint turpentine drier—this makes 8 gallons of old-fashioned paint.

Compare this cost, either by the gallon or by the job, with what you used to pay for paint.

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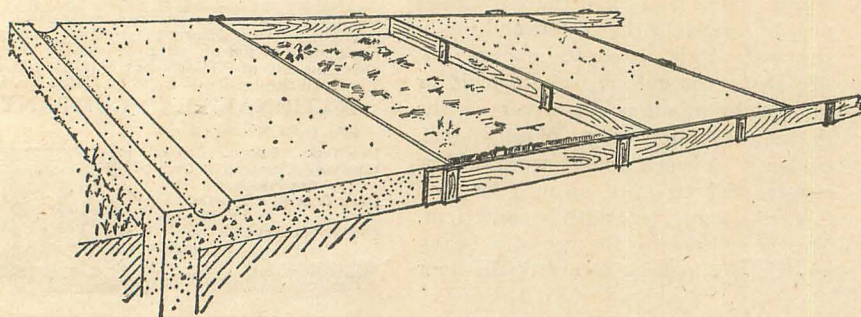
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HELP BOOST NORTH DAKOTA

Placing the Concrete

Always begin placing the concrete on the low side of the floor, so that the rain from sudden showers will not run from the hard onto the newly placed concrete. Fill the trench and the slab section of the forms with concrete. Bring the surface to grade by drawing over it a straight edge with its ends on the opposite forms or with one end on the form and the other on the finished concrete. Four inches in from the edge, on each of the low sides, temporarily imbed the rounded 4 by 6-inch gutter mold and tamp it down until its square top is even with the surface of the slab section of the floor. Remove the mold and finish the



surface with a wooden float. The day after the concrete in each section is placed, carefully throw on a covering of hay or straw, and keep it thoroly wet for a week. Connect the gutters with the manure pit by means of a trough, another gutter, or by large drain tile laid underground. If concrete feeding troughs and racks are to be built at some future time, make the necessary mortises by temporarily imbedding beveled blocks or wooden frames in the soft concrete.

Below is given an itemized bill of materials necessary for a 6-inch floor 24 by 36 feet, amply large to accommodate 50 hogs.

MATERIALS REQUIRED

Crushed rock or screened gravel,
20 cubic yds. at \$1.10.....\$22.00
Sand, 10 cubic yards at \$1.00..... 10.00
Portland cement, 28 barrels at
\$2.50.....\$102.00

Mixing the concrete by hand, 5 men can usually finish this floor in two days. Prices of materials vary greatly in different localities. The figures given above are safe; but, before deciding as to what your own floor will cost you, consult local dealers. Depending upon price of labor and materials and the thickness of the concrete, the floor will cost 6 to 12 cents for each square foot of surface.

Concrete Barnyards

The advantages of concrete feeding floors so appealed to the farmers who first built them that they enlarged the floors until their entire barnyards were surfaced with concrete.

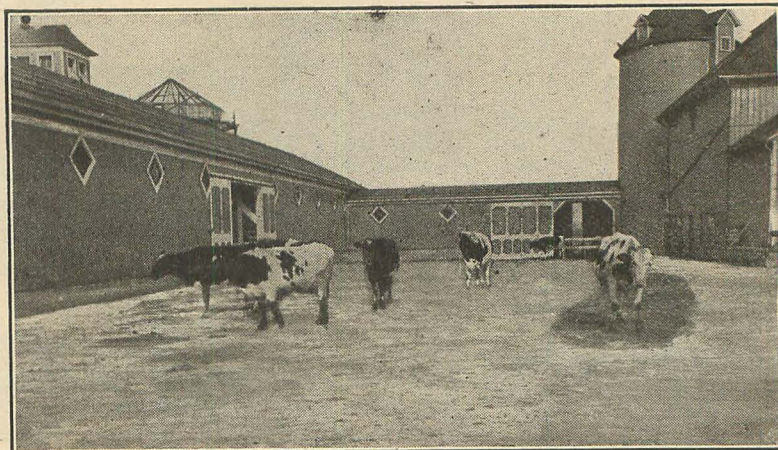
It is no uncommon sight in the spring and winter to see an earthen barn lot so deep with mud that animals go thirsty rather than attempt a trip to the water trough.

The effect is bad on all kinds of livestock, especially on fattening animals and dairy cattle. "Feeders" must have abundance of water to fatten quickly. Insufficient water cuts down the quantity of milk given by dairy cows. Lack of enough exercise further decreases the yield. An occasional trip thru this mud to the trough so cakes the cows' udders with dirt that the milker wastes valuable time in washing them—and they must be washed, if one would have

exercise lot in all kinds of weather and always affords a dry spot for the animal's bed. Every shower washes the surface clean and flushes the droppings into the manure pits. Concrete yards lighten the work of the housewife, as there is no mud to be tracked on the walks and kitchen floor. The use of rubber boots is unnecessary. On concrete floors not a particle of grain need be wasted. The way to the water trough is always dry, smooth and passable. Concrete floors promote and protect the health of farm animals and increase the profits of farming, stock raising and dairying.

Construction

The construction of concrete barnyards is exactly like that of Feeding Floors, except that the work is on a larger scale. Often the entire lot is not paved in one season, but from year to year as the farmer has time. In excavating for the drainage foundation, be careful to remove all manure and straw which may be tramped into the ground and which may be so solid as to resemble earth. In time any kind of manure decays, shrinks, causes the floor to settle and forms water and ice pockets on its surface. Dig the trench for the foundation apron as for Feeding



clean, wholesome milk. Continual tracking thru the mud not only makes more currying, but often produces that irritation on horses' legs known as "scratches". Suddenly frozen, such as earthen lot is so rough that it is impassable. Moreover, the old barnyard—with its surface worked up year after year—becomes a storage place, which carries over the disease germs from one season to another. The "droppings" are entirely lost, and, mixed with the earth, tend to make the lot muddier the following year. To keep up the fertility of the soil, all the manure produced on a farm should be saved and returned to the fields.

Concrete Floors Increase Profits

A concrete barnyard makes a fine

Floors—there is no material so rat-proof as concrete.

With the drainage foundation ready, set the forms in the same manner as for a sidewalk. Even if the whole lot is not to be paved at one time, plan the grading for the entire barnyard so that the completed pavement may have perfect surface drainage. Build and cure the pavement and make provision for saving the manure the same as for concrete Feeding Floors. Do not be too particular about giving the surface a smooth finish—a rougher finish affords the animals a better footing. The cost per square foot is no more than that of feeding floors—the investment yields even a greater profit.

HELP BOOST NORTH DAKOTA

NORTH DAKOTA'S FIRST DRY FARMING CONGRESS

The Dry Farming Congress Auxiliary that opened at Dickinson on January 31 brought together a record-breaking attendance, in fact it was the equal of the International Dry Farming Congress held at Spokane. Farmers anxious to learn more of this system that brings a crop and a good one regardless of the season. The program included some of the leading men of the country and the speeches that they delivered were of a high order. The prizes offered for grains brought in a good display and of a fine quality, so that Prof. Sheppard who did the judging found it a problem to decide on the winners.

The meeting opened with an address of welcome by mayor R. H. Johnson. Among other things he said that he was glad to welcome so many to the city, was glad to see that the farmers were so much interested in learning more of their great work, of learning how to better feed the increasing millions and at the same time to get a more adequate reward for their labor.

Dr. J. H. Worst, President of the International Dry Farming Congress responded to the address of welcome on behalf of the Dry Farming Congress. He said that he was glad that the business men were taking so much interest in farming, that the way to build up a city is to help the farmers prosper and they will make the city. He was glad to see so much interest taken in the meeting and the opportunity that it affords for getting information. Farming is the last industry that is coming to the stage that an education is required, but the time has now come when the farmer must work along as exact lines as the doctor, lawyer, or minister if he is to make the best kind of success in his work. He called attention to the fact that in Minnesota but .4 of one per cent of the school children are taking courses in agriculture and that the per cent in this state is almost as small, less than one per cent trained in the foundation industry of the state.

Prof. L. B. Linfield Director of the Montana Experiment Station was called on for a few remarks. The only way to raise crops in Montana was by irrigation was the thought of the farmers at first. But, continued the professor, some began growing crops without irrigation on the bench lands and found that they could raise good crops by conserving the moisture. Fall wheat was found to be the best, it yielding 50 to 100 per cent more than spring wheat under similar conditions.

HELP BOOST NORTH DAKOTA

Prof. J. H. Sheppard in discussing varieties of grain for North Dakota spoke of the work that the station is doing in producing new varieties and how they are distributed. The first step is to grow the wheat in the nursery till it proves to be superior to other varieties, then it is tried out at the sub-stations and then it is grown on the demonstration farms, from these it is distributed to the farmers of the state.

At the opening of the afternoon session Dr. W. E. Taylor gave an eloquent address on the important part that the farmer plays in our countries

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Zenith collars are guaranteed for 3 or 5 years, according to grade. They wear long enough to make them by far the cheapest collar you can buy.

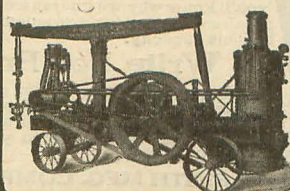
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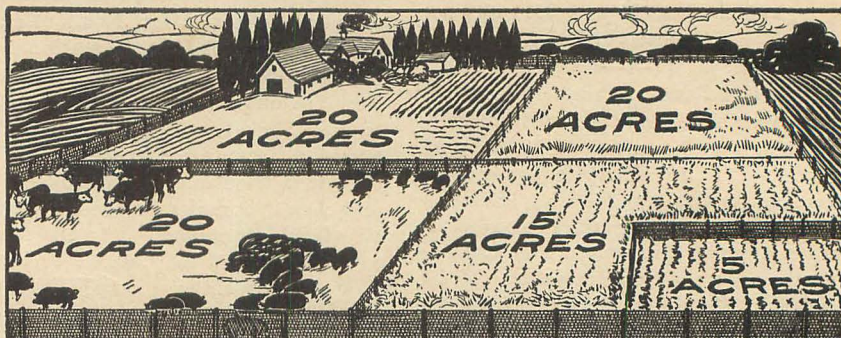
R. R. HOWELL & CO., Minneapolis, Minn.

development. That the man behind the plow is the greatest man in the country. That men like Rockefeller, Carnegie and Morgan behind their piles of gold are not to be compared to the farmers in importance. He also spoke of the conservation of moisture, of plant fertility, and cited Switzerland as a country that supports a population of over six million people on a territory the size of ten North Dakota counties and yet has dairy products for export.

Community of interests was the subject of Thomas Cooper's talk to the congress. He said the railroad can only prosper as the farmers prosper. He related how the Northern Pacific had spent money carrying on demonstration farms, that they might thus show the farmers how they could increase their crops. In one sense you regulate the prices that we are to charge as well as the service. Self-interest is the best protection for those who have invested in the railroads. To develop the state more railroads are needed and the money for them will only come as investors think that it is safe.

In discussing the rotation of crops Prof. Shepperd started with corn as one of the important crops to grow. The cultivation given it kills weeds, saves moisture, and puts the soil in good condition to grow a good crop of grain the following year. It should be fed to livestock and the manure put back on the land. A good crop to follow corn with is flax, wheat will do well after the flax. Alfalfa is another crop that should be grown. It adds fertility and humus to the land and produces the richest hay that can be grown. Pound for pound it is the equal of bran. It is also well liked by stock. Peas is another crop that should do well and they make splendid feed either pastured, made into hay or raised for the grain. It makes a good hog pasture. Rape is a plant that forms a splendid pasture for hogs. Diversification of crops and the keeping of livestock leads to economy. When one crop is grown the soil gets full of the weeds that can grow best in it, insects and plant diseases get a foothold and the land gets out of condition, so it can not retain moisture, plant food nor hold itself together so that drifting results. There are so many reasons for the rotation of crops that a person can not afford not to diversify in farming.

In an address on Dry Farming Press ident Worst brought out the great principles of this great movement in a masterful manner, and enjoining upon his hearers the need of putting these principles into practice. He compared the farm to a cistern into which to get the water when it falls as rain, and then to put the lid on to keep the water from escaping. To get the rain into the soil it must be plowed deep enough so that a



One Animal and Three Hogs to an Acre

THIS is a fair estimate of the average feeding ability of the soil. On a farm of 80 acres the highest limit of efficiency is 20-acre fields. Large fields diminish the earning power because two small fields alternated will furnish much more support for stock than the same average in one big field. The fence is the important factor; and with the liberal use of gates, unlimited extension and alternation is simple.

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shower can all soak into the soil and not run off. The time to save the moisture is when one has it, and that time is when it rains. The deep tillage also gives the roots more soil to draw on for food. To put the lid on as it were the soil mulch is the means to be used. Loosen up the surface after plowing. The disc is a good tool as it both packs the soil and loosens the surface. Harrow the grain from the time it is three inches high till it is eight or nine inches high. If the season is dry use the weeder on it till it heads out. When the grain is cut follow the binder with the disc, as it makes a mulch and also kills weeds. It will save a great deal of moisture from escaping and will leave the land in shape so that it will plow well.

The attendance the second day would have been much larger than it was but for a heavy snow storm during the night. This day's session was opened with a talk on corn by Prof. W. C. Palmer. He stated that the main reason for growing corn for some time would likely be for the good effect that it has in preparing the soil for a crop of grain. It being a sort of a John the Baptist crop, preparing the way. He recommended leaving at least every fourth or fifth row of stalks standing to hold snow and to lessen the effects of drifting where the soil is light.

Prof. Thomas Shaw then took the floor and expounded the doctrine of dry farming, relating his experiences in running 45 demonstration farms in Montana during the last season. He said that from this experience he was convinced that crops could be grown every year with much certainty but that the land must be prepared if a crop is to be assured in a dry year. At Chester, Montana with a rainfall of seven inches from September, 1909 to September, 1910 he grew crops that went from 12 to 20 bushels per acre. This was where the land had been prepared. Without preparation no crop was the result.

On a good seed bed I sow but 20 pounds of seed per acre was the startling statement made by Ross Martin, and a good crop is the result, 25 to 35 bushels per acre. The wheat stools when planted thus so that one plant has from 30 to 60 stalks and the heads are large, will average 35 kernels per head while with the ordinary seeding their will be but about 3 stalks per plant and about 20 kernels per head. If the season is a dry one the difference is the most marked. He plows deep, then packs the soil and makes a soil mulch. Plows the land only when it is in a good moisture condition. Runs the disc after the binder which saves moisture and kills weeds.

W. B. Snyder stated that lignite was

splendid for producer gas, that this is of a good quality and can be produced cheaply. He thought that it would be feasible for each farmer to have his own plant and run his machinery with gas. That traction gas engines could be made that could be run with lignite. This certainly opens up a fine supply of power and one that is right at hand.

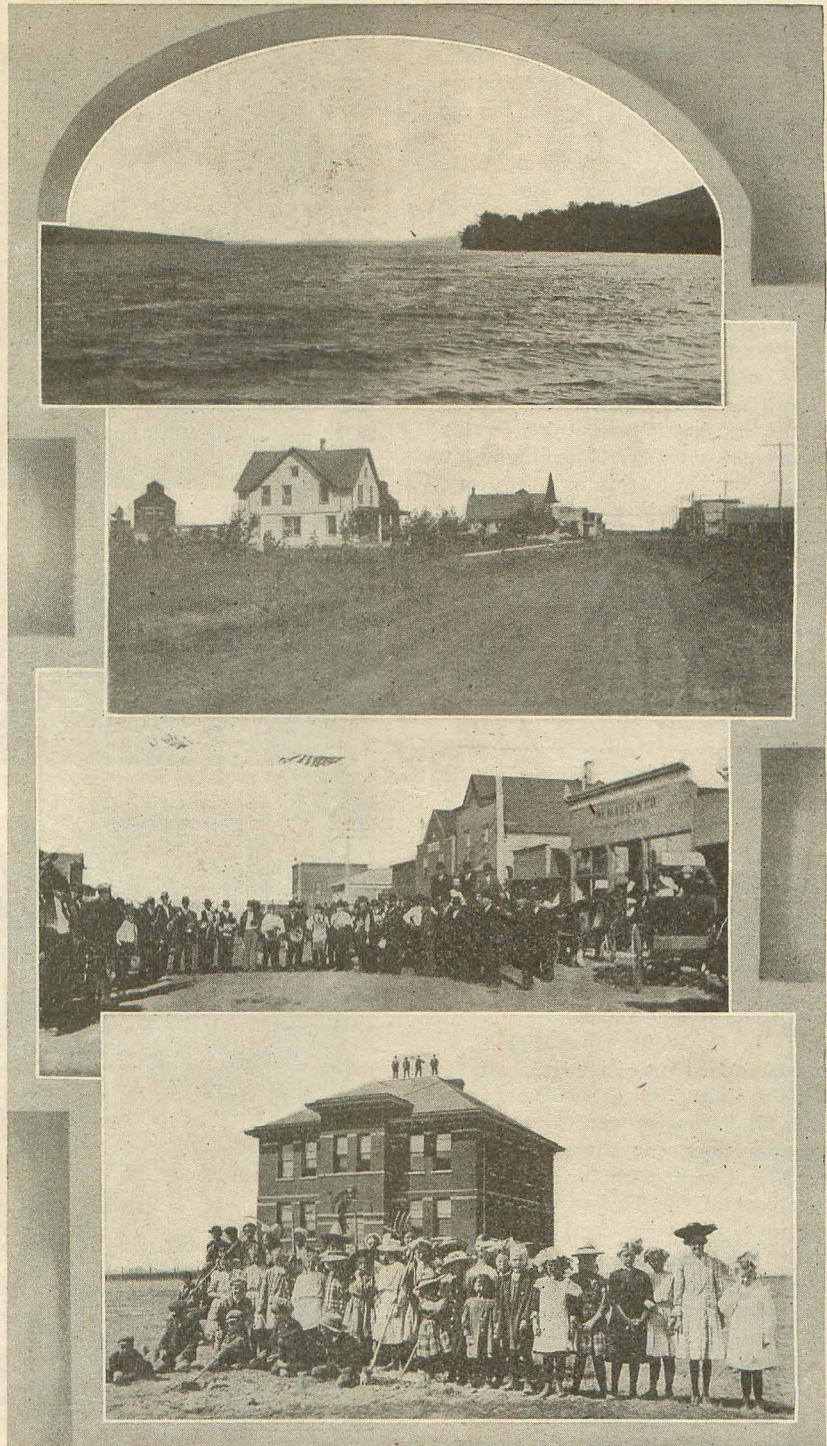
Col. R. A. Wilkinson took for his subject stock on the farm. He related his experiences and observation in the east-

ern part of the state, how those who had gone into stock-raising and dairying had made the best success of their farming.

S. W. Ukenholz was on the program for a talk on stock-raising. He spoke of raising corn for feed, of grasses for pasture, of alfalfa and clover for hay. Relating many of his experiences from the time he came to the state.

An organization was effected under

HELP BOOST NORTH DAKOTA



Typical Scenes in Stutsman County.

the name of North Dakota Dry Farming Convention. The following officers were elected for the ensuing year: President, C. L. Timmermann, Mandan; 1st Vice-President, J. H. Smith, Beach; second Vice President, E. S. DeLancy, Valley City; third Vice President, A. A. Liederbach, Dickinson, Secretary-Treasurer, L. R. Waldron, Dickinson.

John T. Burns, Secretary of the International Dry Farming Congress could not be present at the meeting as he had planned.

In interest and attendance the meeting was one of the most successful that has been held in the state, showing the keen interest that is being taken in this great movement: Dry Farming that makes it possible to raise a crop every year in spite of weather conditions, barring storms and other unusual things.

TRI-STATE GRAIN GROWERS' CONVENTION

The Twelfth Annual Tri-State Grain Growers' Convention was held at Fargo, N. D., January 17 to 20 inclusive. The attendance was up to the average varying from 1,000 to 1,400 during the four days. The interest was keener than ever, the partial crop failure has been a great school master.

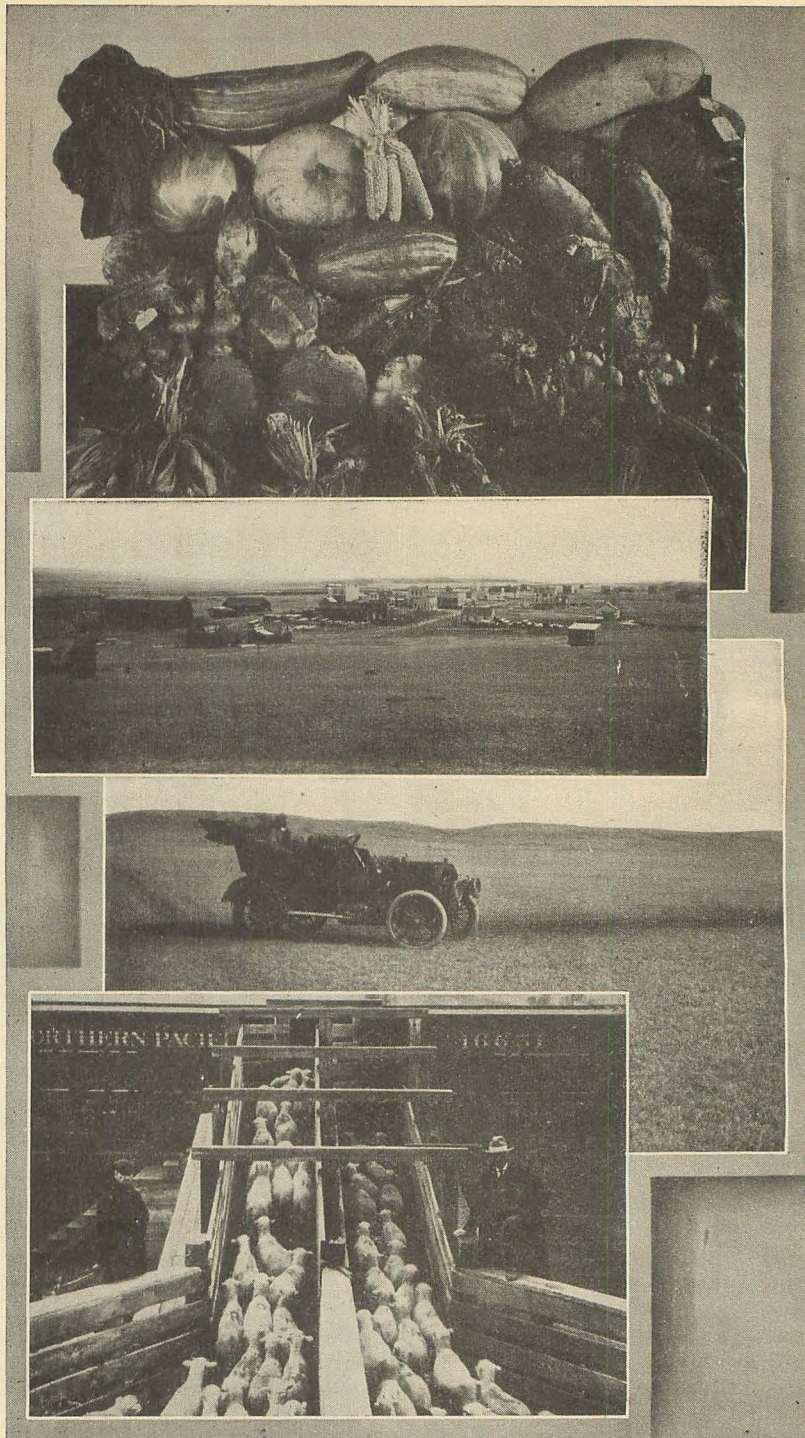
After the address of welcome by Mayor Lovel and the response by John Van Arham of Kindred, N. D., Prof. R. M. Dolve of the Agricultural College took up the subject Economic Importance of Good Roads.

Supt. L. R. Waldron of Dickinson, who has carried on the largest alfalfa test in the United States stated that the Grimm alfalfa has proven the hardiest, less than five per cent of it winter killing when 33 per cent of the Mongolian and 65 per cent of the Turkestan varieties killed out. For a dry section it is important that the plants be not too close together. It was found that when the plants were nine inches apart the roots went to a depth of eight feet while when the plants were two and one-half inches apart the roots were only three feet long. The yields were as follows: 167 plants per square yard, 1100 pounds per acre and only one crop; 20 plants per square yard, 1800 pounds and two crops; Five plants per square yard, 4800 pounds and three crops. These are yields for 1910 an unusually dry year.

Dr. Max Batt of the library commission reported that the number traveling libraries had increased from 18 in 1908, to 117 in 1910.

In discussing conservation, Prof. C. B. Waldron made a plea for a system of agriculture that will keep up the fertility and recommended that every farmer should plant some trees. Corn as a

HELP BOOST NORTH DAKOTA



Scenes in Western North Dakota. The raising of Vegetables and the Shipping of Grasses and Grains in the Form of Livestock are the Marks of a Good Farmer

Factor in Production was treated by Prof. Hess. He brought out the fact that corn is a good preparation for a grain crop.

Ross Martin of Powers Lake related his farm experience telling how he raised a 32-bushel crop of wheat while the crop of his neighbors only went five to six. He followed the Campbell system of dry farming.

In his address on Soil Sanitation, Prof. H. L. Bolley of the North Dakota Agricultural College discussed different

diseases that affect wheat and that live over in the soil. One remedy is to not sow wheat so often, thus giving the disease germs time to die. This makes another strong argument for the rotation of crops.

J. D. Bacon of Grand Forks was down for a talk on Corn a Factor in Crop Production. He gave the results on his farm, giving the figures to show that he could make a greater profit in growing corn than grain. He also advised growing clover. Prof. M. A. Brannon of

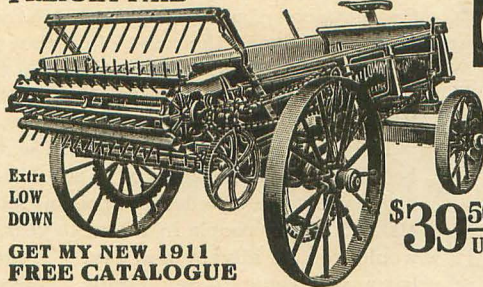
the State University gave an address on Some Sticking Points in Farming. He quoted from the Department of Agriculture showing the enormous totals of the production of the farms. He had also sent out a good many letters to farmers and gave the answers showing that the farmers were not making much on grain growing. Mrs. Louise Campbell, a student in the Agricultural College Home Economics Course, gave a talk on what the course means to her. She brought out how the science that underlies the principles of home economics as well as the practical work are important, how the training will give those who have it added power.

President Worst in his annual address brought out very forcibly the need of Agricultural education. The increasing population, the increased wants, and the occasional crop failure, all point to the fact that there is great need of better farming. That the farming in a new country will necessarily be more or less of an exploitation of the country's resources, this can not, however, continue, as the land will soon refuse to give a paying crop, if some attention is not given to putting something back.

One day's program was under the auspices of the Livestock Breeders' Association. The first speaker on the program was Col. R. A. Wilkinson of Lake Elmo, Minn. He opened by enumerating the advantages of North Dakota for the keeping of livestock. The dry equable climate, more than overbalances the cold of winter. Land is cheaper than in the corn belt, so that if the cattle can not be kept on pasture as long, forage crops can be grown cheaply to more than make up for this. The foods raised are of a high quality. Prof. Shepperd of the North Dakota Agricultural College styled his address, Lessons from the Season of 1910. He stated that the farmers who had livestock and especially those who have dairy cows do not notice so much the partial crop failure as does the grain farmer. The season has also demonstrated the value of corn as a crop for preparing the land for a crop of grain, the crop of wheat following corn is invariably a good one while wheat following wheat is often a total failure.

On Wednesday evening the stockmen held their banquet and business meeting. They elected officers as follows; President John Donnelly of Grafton; First Vice President, U. L. Burdick of Williston; Second Vice President, J. A. Powers, Power, N. D.; Secretary, W. B. Richards, Agricultural College; Treasurer, C. E. Stowers, Wheatland.

Thursday forenoon the State Horticultural Society had charge of the program. The first speaker was Prof. A. (Continued on Page 18)

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Vol. 12 FEBRUARY, 1911 No. 8

When well cared for 100 chickens will pay a better average return to the home than any other similar investment. Much that they eat is otherwise waste material on the farm.

Pigs are the next best investment in a small way when the same are properly cared for. A half-dozen hogs fattened and sold in the fall bring a sure return and much of their cost comes from cheap material with but little chance to be disposed of—small potatoes, immature corn and nubbins, wheat screenings, grass weeds, and skim milk.

If you are to have hens and pigs, then plan for them in the year's crop and so get greater diversity in the farm, as is needed at this time. Pigs like grass in summer; green clover, rape, peas and good clean water. A small pasture with these crops growing will go far to make good pork and keep animals healthy.

Then, if we are to have eggs, poultry, butter, pork, etc., why not find your own market for them and have a good price the year round? How is this to be done? For 13 years the writer has been furnished fresh butter and eggs each week from a farmer who laid them down regularly at my door as he came to town on business. I have been benefited, so has he. Find a few good customer, furnish a good product and both are pleased.

Snuff is an abomination doing much to demoralize the health and standing of those who become slaves to the habit. Many have chewed snuff until they are its victims, the intellect affected and their moral and physical stamina ruined. Much hobo help are snuff finds, unfor-

tunate victims made worthless by vices that have come out of using snuff. Why not put it beyond the reach of our boys and so help them to their feet on a dangerous path.

If I were to tell you that there had been added to every glass of milk an insidious but surely deadly poison for 100,000 of our people in the next year, would you sit idly by and say, "O, no harm will come to my family. Why should I bother myself about this matter? Even tho only one here and there drop out from the ranks from the effect of poison, what of it?"

But suppose instead of a poison like strychnine there be added a disease-producing poison that not only is sure to strike down many but renders many others a center for further spreading the disease, what then? A mother feeds her babe with milk from a cow or herd afflicted with tuberculosis. What of it? Supposing 50 to 70 per cent of all the animals in the herd have consumption, tuberculosis, in all stages from the beginning to the last stages, what then? Do you care? Will your baby, wife or friend escape this most terrible disease? Then, why do you not put a stop to this "hell on earth" for such it is truly called? Why should commercialism blind your eyes?

But why all this? It is farming about which we are supposed to interest ourselves in these columns. Will next year be wet or dry, is the great absorbing question. Shall we have a good wheat crop in the valley or in the western part of our state? There is lots of snow, well-distributed over the land and the condition is favorable for a good seedbed in the spring. A splendid fall gave ample time to do good work and the land is in good shape for the last season was one largely of rest for the land. What shall we do? Why, put in a crop right up to the limit of doing good work. Go on the basis that it will be a dry season and get ready for it. Have the seedbed in good shape. Cultivate, and get a mulch for the land. If it is dry you will then be sure of a fair crop and if it is a good year then you will have the bumper crop of the past ten years, but don't buy an automobile on the outlook and run in debt for it. Wait until you get your crop and then see whether you need any luxuries or can afford them. Unless you have a crop you will not need new binders or threshers, be optimistic but do not pave the way for bankruptcy by looking thru some interested person's eyes.

Are you planning to grow corn this year, both as a crop and for feed? Have you followed the meetings this winter and observed how much attention has

been given to corn. Have you noted that the First National Bank of Fargo is to give large premiums for stimulating interest in corn growing? If not, take note and try for one of these premiums and get interested in, and enthusiastic over the future of your own state. There is no better agricultural state in the Union and corn is essential for a crop rotation for any country. Corn means hogs and wheat means cows and dairying on the farm and flax means fat, healthy stock if we do well our part. North Dakota has all these and a promising future if we act the part of men, put our shoulder to the wheel and push forward.

Enthusiasm, which means success or is the first essential to success, and good judgment to execute well our plans will put us well on the road, but don't let some agent induce you to part with your money before you get it.

If all of our people would boost for North Dakota half as much as some of our coast enthusiasts do then we would be in the front rank for all time. It is agriculture that needs fostering, not lumbering or salmon-fishing or some unheard of mine that will most likely help the other fellow but bring poverty to you.

Did you clean any seed wheat this winter and get ready for a better, purer seed another season. Scrub seed is no better than scrub stock, unless you are a scrub farmer and a scrub man and are going to bring up scrub children.

It doesn't pay to grow fife wheat that is a mixture of fife, durum, velvet chaff and wild oats with pigeon grass and mustard thrown in. Get pure seed as well as pure food, grow fife or bluestem or velvet chaff, or durum wheat but not a mixture, if you want to be a success and get the best possible price.

Be sure to treat your seed wheat, flax, and potatoes with formaldehyde, whether there is smut, wilt or scab and so keep free from these evils to your crop. A little smut here and there in the seed will surely cut down the yield and lower the grade and all to your loss. Be sure of good formaldehyde and do a good job of treating the seed. If you need advice apply to your experiment station for assistance and read the bulletins.

Poultry and pork are high, then why not grow more of them and have something to sell all the year round and so use up the cheap food material of the home. Even the bones make good material for the chickens when properly crushed. It is these small odds and ends that too often make the difference between profit and loss for business and the farmer needs to be, above all else, in these times, a business man.

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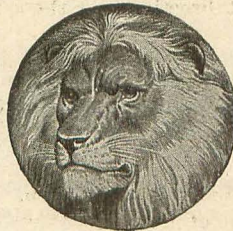
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FARM AND STOCK NOTES

Cost of production and selling price determines profits.

Unity and order give stability and stability prosperity.

With the farmer as with other classes, overwork is often an expensive mistake.

The dairy cow is a machine for converting raw materials into a marketable product.

Of the food given an animal only about ten per cent goes into growth.

No single ration meets the entire wants of the young, growing or fattening animal.

The wellbred horses are the kind that impress their own characteristics on their offspring.

On the farm or in the care of livestock in order that the best success may be had a regular system must be adopted and followed.

Butter looks nicer in every way wrapped in parchment paper, than in cloths when sent to market.

To be the most serviceable, horses must have the best opportunity to rest when they are out of the harness.

Too heavy feeding and want of exercise tend to barrenness, not only among fowls but among all other classes of stock.

The larger the animal and the rougher it is, the greater the amount required for the food of support.

Those who constantly feed a variety of foods have less trouble with disease than those who only give one ration for a continued period.

Failure to distinguish between the merit of the animal and its value to us is responsible for the prejudice which many entertain against certain breeds.

The animal that best and most economically does the work that we, as feeders and breeders have for it to do, is to us the most valuable animal.

The farmer who breeds young sows every year and fattens after one litter, selecting in turn brood sows from this first litter, can never expect to have a first class herd of sows on his farm. He never has any fully developed animals, and will never have any pigs with the stamina and vigor they should have.

Sufficient variety is a most important item toward maintaining a good appetite and good health.

A man or an animal will tire of any one food when compelled to live on it exclusively for any length of time. Both health and thrift maintain when a

good variety is supplied. This applies to all classes of stock.

Wasteful feeding increases the cost of an animal.

Commence in good season to get ready for spring work.

Good livestock should be an adjunct to every grain farm.

The right management and care of stock largely determines the profitability.

Never overfeed young animals and give only such food as is easily digested.

If the sows are to farrow early see that they have warm dry quarters.

A hog as well as any other animal will thrive best when its surroundings are clean.

If an animal on the farm is not making a gain you may feel sure it is making a loss.

Farming is about the only business that makes any pretense of profit without keeping accounts.

Many experiments that result in failure, as well as those which succeed, may help us in gaining knowledge.

If the heifers are to be developed into good dairy cows their care and training should be in that direction from the very start.

Generally the larger the acreage under cultivation the less attention can be given to details, and consequently the smaller average profit per acre can be secured.

Any improvement that helps us to perform the labor of planting with greater rapidity and does not detract from the efficiency of the work, should prove economical.

The farmer who plans his work in such a manner as to have some important work to perform the year thru is most apt to meet with financial success.

Grain and roughness which could be fed to a wellbred animal with profit should not be wasted on a scrub that will not more than return its cost if it does that.

While every line of business has its losses it is hardly fair to call undue attention to the unfavorable side of farm life as there is really a less per cent of failures among farmers than among any other class.

To a very considerable extent the value of feeds depends upon the digestible matter in them and the amount an animal can digest varies very materially with different feed stuffs, as well as the conditions under which it is supplied.

With all kinds of farm work and es-

pecially with seeding, cultivating and harvesting there is a best time for doing the work and the nearer the work can be done to this time the better will be the results secured.

With all crops, whether in the garden, or field, a quicker germination of the seed, and a more vigorous start to grow can be secured if the soil is thoroly prepared in a fine tilth before sowing the seed, besides lessening the labor of cultivation.

The cost of feeding an animal increases with its weight, but not in direct proportion to its weight. The cost of feeding a small animal is greater, in proportion to its size, than the cost of feeding a large one. This has reference only to cost of maintenance.

In the sowing of grasses either for pastures or meadows it is very important to have a good quality of seed, to sow a liberal quantity per acre and to distribute as evenly as possible over the surface of the soil. These are essential in order to secure the good even stand of plants so essential to securing the best results.

HELP BOOST NORTH DAKOTA

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **Human CAUSTIC BALSAM** has no equal as a Liniment.

Body

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A
Perfectly Safe
and
Reliable Remedy
for

**Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and
all Stiff Joints**

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Begin 1911 Right

Improve your stock

Aberdeen Angus Cattle

White Holland Turkeys

White Plymouth Rocks

EASTGATE BROE

Willobank Farm Larimore, N. D

BUTTER PRIZES WERE AWARDED

The work of scoring the many samples of butter that have been received from all parts of the state has been going on for two days. J. M. Sorenson, Minnesota Dairy Inspector, acted as one of the judges. The butter was stored in the basement of the city hall and the inspection and determination of prizes covered all grounds upon which such tests are made. The tests are made for flavor and color, salt and package. A good deal of attention was paid to the package.

Prize Winners of Cups

The winners of the silver cups given by the Northern Pacific railway for the highest scoring of dairy butter and creamery butter were Mrs. John Somsen of Buchanan, for the highest store dairy butter; Philip Palmer of Steele for and highest score for creamery butter.

Dairy Butter Scores

The following is the announcement of the score for dairy butter:

Mrs. W. H. Lakey, Buffalo, 90.
Mrs. E. Warren, Jamestown, 91.
Mrs. C. A. Nyberg, Spiritwood, 89.
Mrs. Rosa Selwert, Lynchburg, 90.
Mrs. John Somsen, Buchanan, 93½.
Mrs. Jerre Morrison, Jamestown, 90.
Mrs. Peter Vondergust, Jamestown, 91½.
Mrs. C. M. Chrislderson, Ypsilanti, 92.
Mrs. Henry Hanson, Kensal, 91.
L. A. Beyer, Buchanan, 91.
Mrs. Carolina Danuser, Adrian, 91.
Thos. Eckwetsel, Bluegrass, 90½.
Mrs. W. Elkins, Jamestown, 90½.
Mrs. L. M. McClary, Adrian, 90.
Mrs. L. G. Haglund, Medina, 91½.
Mrs. C. L. Young, Gackle, 92.
Mrs. L. B. Neidrebo, Gardner, 91½.
Mrs. John Carlson, Deer Lake, 91½.
Mrs. J. E. Lang, Jamestown, 93.
Mrs. N. H. Whitcomb, DeVaul, 92½.
Mrs. J. S. Good, LaMoure, 92½.
Mrs. Chas. Schumacher, Courtenay, 92½.
D. M. Goodall, Erie, 90.
Mrs. W. H. Murphy, Walhalla, 90½.
Mrs. Henry Stuff, Jamestown, 90.
Wm. Laurence, Eldridge, 91½.
Tom Pendray, Jamestown, 92½.

Creamery Butter Scores

The creamery butter scores were as follows:

E. A. Greenwood, Marion, 91.
O. H. Peterson, Gackle, 92¼.
Paul Deltmenn, Judson, 91.
Martin Larson, Hazelton, 91¼.
Gust Kruempel, LaMoure, 91¼.
Iver Lovaas, Driscoll, 90.
R. F. Rautenkranz, Hanover, 91¼.
Paul Hoberz, Youngtown, 91.
B. F. Frank, Hankinson, 90.
J. M. Hein, New Salem, 90.
F. O. Kherr, Fargo, 91.
Hans Larson, McKenzie, 93½.
Hugo Dorn, Streeter, 92½.

ST. PAUL UNION STOCKYARDS CO. REPORT

Comparison of Receipts and Shipments of Livestock for January

	Receipts					
	Railroads	Cattle	Calves	Hogs	Sheep	Horses
C. R. I. & P...	190	73	1699	.....	20	34
C. G. W.....	1219	211	6889	203	47	141
C. M. & St. P.	3631	810	18410	1926	56	403
M. & St. P....	2259	513	13142	1409	15	292
C., St. P. M. & O	2914	444	23389	4596	12	474
C. B. & Q.....	222	30	3687	430	.....	57
M. St. P. & S. S. M.	2885	1343	8696	2051	.....	237
Gt. Nor.....	5179	2682	22682	3065	27	502
Nor. Pac.....	2424	576	4495	7808	.....	180
St. P. B. & T	.....	.....	.....	.....	.....	.....
Driven In....	649	79	556	209	22	.....
Total.....	21572	6761	103645	21697	199	2320
Increase.....	4602	3140	37784	.....	.....	455
Decrease.....	.....	.....	.....	40956	140	.....
Jan. 1 to date	21572	6761	103645	21697	199	2320
Increase.....	4602	3140	37784	.....	.....	455
Decrease.....	.....	.....	.....	.....	.....	.....
Average Wts.	789	151	211	102	.....	.....

Shipments

	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P...	2035	31	962	1151	10	77
C. G. W.....	1928	89	143	161	.....	61
C. M. & St. P.	2731	283	26753	4150	39	352
M. & St. L. ..	951	183	463	243	.....	36
C. St. P. M. & O.	1195	542	1033	1780	13	67
C. B. & Q.....	1947	8	366	3836	.....	75
M. St. P. & S. S. M.	120	16	.....	433	4	8
Gt. Nor.....	291	69	26	652	30	20
Nor. Pac.....	231	24	.....	163	34	15
St. P. B. & T.	.....	.....	.....	.....	.....	.....
Driven Out..	309	221	164	257	56	.....
Total.....	11738	1466	29910	12826	186	711
Increase.....	3314	706	17099	.....	.....	71
Decrease.....	.....	.....	.....	35480	300	.....
Jan. 1 to date	11738	1466	29910	12826	186	711
Increase.....	3314	706	17099	35480	.....	71
Decrease.....	.....	.....	.....	.....	300	.....

Comparison of the Origin and Disposition of Livestock for January

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota....	16168	5948	76994	10371	82	1718
Wisconsin....	1344	473	10654	1063	28	199
Iowa.....	50	.....	500	.....	64	13
Far South....	.....	.....	.....	.....	.....	.....
So. Dakota...	1245	126	7093	1109	.....	150
No. Dakota...	2404	198	8404	2921	.....	202
Montana....	323	16	.....	6233	25	37
Far West....	.....	.....	.....	.....	.....	.....
Manitoba&NWT	.....	.....	.....	.....	.....	.....
Far East.....	.....	.....	.....	.....	.....	.....
Returned....	38	.....	.....	.....	.....	1
Totals.....	21572	6761	103645	21697	199	2320
Disposition of Livestock						
	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
So. St. Paul Pkrs	8046	5571	74527	11013	.....	.....
Cy. & St. Butch.	1263	228	564	677	11	57
Outside Pkrs.	187	376	25658	.....	.....	220
Minnesota....	1026	342	891	1685	118	58
Wisconsin....	513	92	.....	.....	13	22
Iowa.....	4399	379	1878	1316	18	163
Nebraska....	38	.....	.....	194	.....	2
Kans. & Mo...	384	6	57	.....	.....	11
So. Dakota...	46	.....	.....	202	.....	3
No. Dakota..	.....	.....	.....	.....	.....	.....
Mont. & West	48	.....	.....	.....	.....	2

Far South....	.....	.....	.....	.....	.....
Manitoba & WNT. ....	.....	.....	.....	.....	.....
Mich. & E. Can. ....	.....	.....	1358	.....	6
Chicago.....	933	.....	7394	.....	69
Ills. (ex Chicago) 2479	43	309	.....	.....	78
Eastern Points 384	.....	553	.....	26	19
Returned....	38	.....	.....	.....	1
Totals.....	11738	1466	29910	12826	186
					711

PERCHERON MERGER IS AMICABLY MADE

The most important move that has taken place in the history of Record consolidations, took place on February 9th, when an amicable arrangement was reached between the representatives of the Percheron Society of America, and the representatives of the Percheron Registry Company.

By the terms of this agreement, the Percheron Society of America, has taken over all of the books and records of the Percheron Registry Co. and recognizes as pure bred, the horses recorded by said Percheron Registry Company for which certificates have been issued, bearing the name of William Bell, President and Charles C. Glenn, Secretary.

This move has long been recognized as desirable and will benefit every breeder of Percheron horses in America. While the number of animals recorded by the Percheron Registry Company is not considerable, amounting to but 4823 head all told, the fact that they have been recorded by a separate company has worked hardship to many breeders.

NORTH DAKOTA DAIRYMEN'S CONVENTION

The North Dakota Dairymen's Association held their 17th annual meeting at Jamestown on the 8th and 9th of February. The attendance was a little larger than last year while the interest was much increased. These North Dakota dairymen are an enthusiastic lot, and this year has whetted their appetite and done much to add new recruits to their ranks. The man with cows did not feel the effect of the light crop as did the farmer who depended on grain alone.

One of the most stirring of the addresses was delivered by Col. R. A. Wilkinson of Minnesota. He called attention to the fact that no country has yet evolved a permanent agriculture, and that in this country the fertility has been exhausted at break-neck speed and the process is still going on. Dairying is one of the best forms of farming for keeping up the fertility, and at the same time it is profitable. Grain farming is one-sided, and makes it possible for other nations to build up their land at our expense. Dairying will be more attractive as it is better understood and as it is made the main thing and not a side issue. When the work is done in

reasonable hours, when the milking is done at hours that civilized people should sleep, how can it be popular?

Joel Winkjer, Dairy Commissioner of Minnesota, addressed the convention on Quality. Quality in the cow, in the man, then it becomes possible to have quality in the products. Producing good quality will have an effect on the man too, in that it will develop quality of character. He cited experiments made in boarding houses which brought out the fact that when butter of a good quality was provided that the consumption was 25% greater than when a poorer grade of butter was on the table. This then is an important consideration in creating a market for the product.

I believe that the greatest problem in providing feed in this state will be the production of forage. This is being happily solved by the success with which corn and alfalfa can be grown, and clover for the eastern part of the state. Alfalfa is a drought resistant plant and will produce crops when it is too dry for clover to make a growth. Alfalfa is also a very valuable feed and supplements corn so as to make a balanced food. A thinner sowing should be made here than where the rainfall is heavier—eight to ten pounds being sufficient. He would plant 4 to 6 kernels of corn per hill on account of the corn growing smaller than in the so-called corn belt. He preferred planting in hills in view of the fact that corn would be used as a crop to kill weeds and this can be done better when in hills than when in drills, at least by the beginner. For pasture he suggested the following: four pounds bromus, four pounds of western rye grass and an equal amount of alfalfa.

S. C. Thompson of the Department of Agriculture emphasized the need of quality, that there would be a larger difference now between the grades than there has been in the past. Where it had been a cent or less difference per pound it was now 6 to 8.

U. J. Downey of New Salem, who has charge of the Breeding Circuit there, stated that the average cost of feeding a cow there was \$34 and the average return 250 pounds of butter. The best cow gave butter worth \$159.50 while the cost of the feed was \$41, leaving a profit of \$118.50. The poorest cow gave butter worth \$19.60 while her feed cost \$26.62 leaving a loss of \$6.02.



"ONLY SURE REMEDY"

Gadsden, Ala., Apr. 26, 1909.

Dr. B. J. Kendall Co.
Gentlemen: Please send me copy of your TREATISE. I have been using your Spavin Cure for 20 years, and find it is the only sure remedy. It is the best liniment I can get for horse and man.

Yours truly, W. J. McBea.

That tells the whole story, and it is the experience that hundreds of thousands have had in the past 40 years, and it's the experience you will have—"It is the only sure remedy!"

For Spavin, Ringbone, Curb, Splint, Swellings and All Lameness

Sold By Druggists—\$1.00 a Bottle, 6 bottles for \$5.00. Keep it on hand always. Be ready for the emergency. Kendall's stops the pain, starts the circulation, penetrates and removes the cause of the disorders. Ask for a free copy of "A Treatise on the Horse." If not at dealers write to—
DR. B. J. KENDALL CO., Enosburg Falls, Vt.

Only **\$29⁷⁵** and Up
SENT DIRECT FROM
FACTORY TO
YOU, FREIGHT PREPAID

Never before in Cream Separator history could you get a high grade Separator—with gears running in a "Bath of Oil"—the superior of any \$85 to \$110 Separator at such a low direct-from-factory price as I'll make you. Save \$25 to \$50 this way. I make and sell so many I can afford to make the price as low to you as dealers and jobbers have to pay in carload lots—spot cash—for other high grade Separators.

TAKE 90 DAYS' FARM TEST OF A GALLOWAY "Bath in Oil" Separator

Closest skimmer—Easiest running—Easiest to clean—No trouble oiling or danger of running dry like others, which alone is worth \$50 extra. Costs nothing extra on a Galloway. Send me your name today so I can write you my Special Proposition, at the price I'm making direct to farmers and dairymen, based on my output of 14,500 Galloways this year. I'll also send you my big BOOK FREE. Address—Wm. Galloway, Pres., WM. GALLOWAY CO. 1333 Galloway Station, Waterloo, Iowa

IDEAL FEED MILLS

What would you think of a farmer who let 25% to 30% of his grain stand in the field? Any one who doesn't grind corn, oats or other grain loses that percentage of the value of the feed. We build a line of Feed Grinders comprising forty styles and sizes, and as thirty years of experience are behind these grinders we claim to have the best line in the world.

Write for catalog.

STOVER MFG. CO., MFRS.
ALSO WIND MILLS & GASOLINE ENGINES.
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HOLSTEIN CATTLE

THE MOST PROFITABLE DAIRY BREED

Illustrated Descriptive Booklets Free
HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
F. L. HOUGHTON, SECY, BOX 135, BRATTLEBORO, VT.

HELP BOOST NORTH DAKOTA

Prof. J. H. Shepperd, Dean of the Agricultural College, closed the program with an address, "What Dairying Does for a Community." This might fittingly be called the capsheaf address. Among other things he brought out the following facts. Dairying builds up a community, develops it socially, encourages thrift. Makes people improve their homes, plant trees, flowers. Then they want to stay, so it makes a more permanent community. A mortgage seems to shy at a dairy cow. When there is a check coming in every week or month, the result is that people figure out how it can be made to cover the necessary things and soon it brings about a cash business, while the grain growing developed a credit system. Then again the keeping of a number of cows needs not reduce the amount of grain grown on the farm.

Addresses were also made by Peter Miller, "The Silo"; Iver Lovass, "Grading Cream and Paying for Quality"; Dr. J. W. Dunham, "Convenient and Sanitary Dairies" (Illustrated); W. A. Krause, "Educational Butter Contest"; J. W. Bliss, "Creamery Drainage"; L. B. Bassett, "Producing Dairy Products at a Profit in North Dakota."

Officers elected: President, L. B. Bassett; V. President, W. F. Stege; Secretary, R. F. Flint; Treasurer, A. Gabrielson. Board of directors: J. Christianson, G. L. Martin, and W. A. Krause.

The Northern Pacific R. R. offered two silver cups for the winners in creamery and dairy butter. The one for creamery butter was won by Phillip Palmer of Steele with a score of 94. Mrs. John Somson won the cup for best dairy butter with a score of 93½.

A banquet was held on Wednesday evening, R. F. Flint and A. Gabrielson were toastmasters. The new decision of the Interstate Commerce Commission on cream rates was discussed.

Mr. Joel G. Winkjer was presented with a signet ring. Mr. Kruepfer in presentation speech said that it was a token to the man who had risen from the lowest to the highest position in the dairy business.

The following were made life members: E. E. Kaufman, H. J. Thomas and M. J. Court.

At the evening session on Thursday Mr. J. W. Foley, North Dakota's poet gave readings from his own poems.

Never Yet Failed.

I have used your Gombault's Caustic Balsam for over ten years and have never seen it fail. It is the best remedy for sprains, swellings and ringbone. I have never had it fail on anything.—M. M. BROWN, Cassville, Mo.

Caustic Balsam will absolutely remove all poisonous secretions and create a healthy action.

HELP BOOST NORTH DAKOTA

Tell your friends about the North Dakota Farmer.

Gombault's Caustic Balsam

The Worlds Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Firing. Invaluable as a CURE for

FOUNDER,
WIND PUFFS,
THRUSH,
DIPHTHERIA,
SKIN DISEASES,
RINGBONE,
PINK EYE,
SWEENEY,
BONY TUMORS,
LAMENESS FROM
SPAVIN,
QUARTER CRACKS,
SCRATCHES,
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PARASITES.

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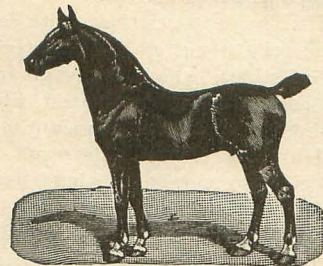
BUNCHES or
BLEMISHES,
SPLINTS,
CAPPED HOCK,
STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made. Every bottle sold is warranted to give satisfaction. Write for testimonials showing what the most prominent horsemen say of it. Price, \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINARY REMEDY

Always Reliable.
Sure in Results.



None genuine without the signature of
The Lawrence-Williams Co.
Sole Proprietors & Distributors for the
U.S. & CANADA. CLEVELAND, O.

NOTHING BUT GOOD RESULTS.

Have used GOMBAULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever tried. I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the largest breeding establishment of trotting horses in the world, and use your blister often.—W. H. RAYMOND, Prop. Belmont Park Stock Farm, Belmont Park, Mont.

USED 10 YEARS SUCCESSFULLY.

I have used GOMBAULT'S CAUSTIC BALSAM for ten years; have been very successful in curing curb, ringbone, capped hock and knee, bad ankles, rheumatism, and almost every cause of lameness in horses. Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it.—C. C. CREAMER, Training Stables, 990 Jennings Street, New York City.

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TORONTO, ONT. CLEVELAND, OHIO.

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BREEDER OF: Black Percheron and Hambletonian Horses, Red Polled Cattle, Poland China Hogs, White P. R. Chickens, White Holland Turkeys, White Embden Geese, White Pekin Ducks and White Guinea Fowls.

GROWER OF: Minnesota No. 169, Spring Wheat, Swedish Select Oats, White Hulless and Success Beardless Barley, Turkey Red Winter Wheat, N. D. 959 Winter Rye, Northwestern Dent Corn, Early Ohio Potatoes, Timothy and Alfalfa.

Young Stock and Pure Seed, for sale. Write me for particulars.

J. A. ENGLUND, Prop.

Kenmare, North Dakota.

THE ENVILLA STOCK FARM

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SHETLAND PONIES. 100 fine ones. Your own price.

REGISTERED ANGUS CATTLE. 25 must be sold.

HEAVY DRAFT STALLIONS, MARES, AND SPANISH JACKS.

WOLF AND FOX HOUNDS that will catch and kill.

PET STOCK OF ALL KINDS. PURE BRED POULTRY, all varieties.

We can please you both in Quality and Price

L. H. WHITE, Prop.

COGSWELL, N. D.

A NEW FROZEN DAIRY PRODUCT

A new frozen dairy product has just been brought out by the dairy section of the experiment station at Ames. This product, which has been named lacto, is made of loppered whole or skim milk, with the addition of eggs, sugar, lemons and flavoring materials. Lacto has a more pleasing flavor than sherbets and ices, and contains considerably more nutriment. It contains as much protein as ice cream, less fat, and more acid.

In an experiment in which 179 persons sampled lacto, 128 pronounced it very good, 37 good, 6 fair, and 8 poor. Comparing it with common vanilla ice cream, 111 reported that they preferred lacto, 9 considered it equal to ice cream, and 59 preferred the ice cream. Comparing lacto to sherbet, 123 preferred lacto, 30 preferred sherbet, and 26 considered lacto equal to sherbet.

Scientists have found that there are large numbers of putrefactive bacteria in the intestines, which are very injurious and may even shorten life. Metchnikoff, the famous Russian scientist, claims that old age is the result of a slow poisoning caused by these bacteria. He recommends the drinking of sour milk, so as to replace the harmful putrefactive bacteria by lactic acid bacteria, which are harmless. The trouble with this remedy is that few people like sour milk. To provide these lactic acid bacteria in a more palatable form was one of the reasons for introducing lacto. The lactic acid bacteria are not killed by freezing, and if lacto is eaten frequently enough there is every reason to believe that these bacteria will replace the more harmful ones in the intestines. This will result in improving the health and prolonging life.

Additional details regarding lacto, and other recipes for its manufacture, are given in Bulletin 118 of the Iowa Experiment Station, which may be obtained free by writing to the Director at Ames.

Hogs need shelter that will always give them a dry place, no matter what the weather.

Tho despised by everybody, the owl helps the farmer by killing and eating the field mice which harm the crops.

HELP BOOST NORTH DAKOTA

ALFALFA LAND

26,000 ACRES of the finest Alfalfa Land on earth. Located in McHenry County, N. Dakota. Sub-irrigated. Pure water. Good railroads. Splendid markets. Any size tracts. Only \$25.00 an acre. Easy terms. **ALFALFA VALLEY LAND CO.,** 532 Pioneer Press Building, Saint Paul, Minnesota.

TRI-STATE GRAIN GROWERS' CONVENTION

(Continued from Page 11)

McMeans who gave a discussion of the farmers' garden, among other things he urged that rhubarb and asparagus be planted.

Ornamental Trees and Plants for North Dakota, was the subject presented by E. C. Kilbourne. He stated that the green ash was the best tree to grow in the state.

The bull pine, a native of the state requires but one-sixth as much moisture as the deciduous trees. The evergreens do not as a rule require as much moisture as other trees therefore they are particularly adapted to a dry country. The above statements were made by Prof. Waldron before the convention.

Mr. A. Brackett advised the growing of some fruit on the farm, at least enough for the home. The Duchess, Patters Greening and Wealthy apples, the Compass cherry, the Desota plum and many other can be grown if given a little care. New varieties are being developed that will be even better adapted to the climate.

DeSmet in a humorous way brought out the needs of cultivation and deep tillage in preparing land for the orchard.

Thursday afternoon the Society of Equity had charge of the program. Mr. M. F. Sharp, President of the National Unions of the Society of Equity gave a stirring talk on what has been accomplished by the Society in Kentucky in raising the price of tobacco to the producer by co-operating in selling. The price has been trebled so that now tobacco is a profitable crop to raise while before they began selling in this way they were raising tobacco at a loss.

A new departure was Woman's Day. The meeting was held at Ceres Hall, the new Woman's building at the Agricultural College. Two hundred and fifty were in attendance. Addresses were made by Miss Maude Matthews, Mrs. G. W. Randlett, Miss Alice C. Haggart, Mrs. Serene B. Ash, and Prof. E. S. Keene. The talks were all illustrated.

The nominating committee reported the following names: for President, J. H. Worst; Vice President, R. A. Wilkinson; Secretary, Supt. T. A. Hoverstad. The report was adopted unanimously.

This closed the Twelfth Annual Tri-State Grain Growers' Convention, one of the most successful that has been held. The interest had never been as keen, there being very little coming and going during the meeting.

HELP BOOST NORTH DAKOTA

You can't afford to miss one copy of the North Dakota Farmer—renew at once.

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One Cent a Word

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HORSES

FOR SALE

Percheron, Belgian and Shire horses
J. W. & F. T. PETERSON, Litchfield, Minn.

MEADOWBROOK STOCK FARM. Clydesdales and Shetland Ponies, imported and home bred. Prices reasonable and terms to suit. Write or come and see me. **GEORGE LANG, Mapleton, Minn.**

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Aged and young Jersey bulls also heifers for sale—thoroughbred and registered. Write for particulars. **C. E. BATCHELLER, Fingal, N. D.**

North Branch Stock Farm. High class Short-horns. Herd, bull, Supreme Judge 177722—pure Scotch. **John Donnelly, Grafton, N. D.**

FOR SALE

GALLOWAY CATTLE

J. W. & F. T. PETERSON, Litchfield, Minn.

SWINE

POLAND CHINA PIGS, also Shropshire sheep. Seed grain. **GEO. N. SMITH, Amenla, N. D.**

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EGGS FOR HATCHING. Express prepaid, \$2 per 15, from pure bred Golden Wyandottes and White Plymouth Rocks (Fishels strain.) Choice stock for sale. Send for Catalog. **C. H. McGEE, Oriska, N. D.**

MISCELLANEOUS

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolfand Fox Hounds, Pure Bred Poultry, Pet Stock. Write them.

FAIRVIEW STOCK FARM. Breeder of Short Horn Cattle, Mammoth Bronze Turkeys and B. P. Rock Chickens. Young Stock for Sale. **F. R. HAMMOND, Prop., Bismarck, N. D.**

FOR SALE Six farms, joining, 6 miles from Bowbells, will be cheap. Write for particulars. **The Lyon Land and Loan Co., Bowbells, N. D.**

100 Tons of Hay, 300 Cockerals and Tom Turkeys—choice ones. Buy now—special prices. **Envilla Stock Farm, Cogswell, North Dakota**

RED-POLLED AND GALLOWAYS

Shropshire Bucks

J. S. BIXBY, - - LISBON, N. D.

WANTED We want a salesman in every town in North Dakota to sell our high grade line of Forest and Fruit Trees, etc. Write us for terms. **NORTH DAKOTA NURSERY CO., Flasher, N. D.**

FARMS FOR RENT OR SALE ON CROP payments. **J. MULHALL, Sioux City, Ia.**

HOMESTEAD LANDS

If you want a choice homestead, that will make a first class farm, write Geo. J. Smith, United States Commissioner, at Plaza, N. D. enclosing 25 cents in coin for his valuable booklet on the "Opening of the Fort Berthold Indian Reservation." Every land-hungry man should have it.

Poultry Department

Geo. Hausmann, Hillsboro, N. D.

GREEN BONE AS A POULTRYFOOD

One of the most necessary, and in our experience one of the best, feeds for poultry is green cut bone. In our estimation no other food can take its place. There are different food elements required for fowls and one of the most essential of these is protein. There are other elements also necessary, this is, however, the one which is given most attention to, by the poultrymen. In green cut bone we find this essential element, hence its value as a food.

Green cut bone can be fed advantageously to fowls intended for different purposes and under different conditions. The greatest help that green cut bone is to the average poultryman is in feeding it during the winter months to supply them with animal food. It is a recognized fact that animal food must be given during the winter months, in some form, to get the satisfactory egg yield and keep the fowls in a healthy condition. It is a food which all fowls eat readily and must be fed judiciously. When feeding green cut bone, the poultryman, or anyone who is trying to get results, ought to have a bone-cutter. The cost price is within reach of all, and very reasonable, and will pay for itself the first year it is used. If you only keep a few fowls and cannot purchase a bone cutter, by all means then try to get some somewhere. Bones can be gotten from the butcher shop, at a small cost. The man who has the means of getting a machine, but thinks he can do without is wrong, as he soon will find out by experience.

There is one thing about which the person who has had no experience with green cut bone should be cautioned, and that is not to feed too much of the food. They devour it very greedily, and unless a person is very careful they will get too much of it. When first feeding it, give only just a little, say a $\frac{1}{4}$ of an ounce to a hen and gradually increase it, to an ounce a day per hen. As soon will be found out, their meat supply must be limited, and if they show any ill effects from what is given them the quantity should be decreased. No tainted bone ought to be fed. In the summer time especially it will spoil if kept on hand. In the winter time a good supply can be cut in advance. In this season of the year it is necessary to feed more than in the summer time, for fowls cannot obtain any animal life, and it is this time of

the year therefore that it ought to be fed most extensively. There are different ways of feeding it, some give it in the mash, we feed it by itself, but this is immaterial. The main object is to provide the protein which it contains and the manner in which it is fed, is not important.

There are many other foods, rich in protein besides green bone, such as bone meal, beef scraps, etc., but none will compare with green bone. Green bone mills are coming more and more into favor, and strictly on their own merits.

NOTE

In a previous issue by a typographical error I was made to favor the curtain-front chicken house in this climate. As this is absolutely contrary to my belief, I take this means of correcting the mistake.

THE TWO HUNDRED EGG HEN

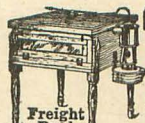
After running the rocky road of jeers, criticism, ridicule, and editorial space-filling, the 200-egg hen is receiving some of the dues that are rightfully hers as a matter of economic virtue. Whether she will ever become so numerous as to bring the average of any large flock up to this figure per annum we are inclined to doubt. That she is not a "freak" is being demonstrated by at least one breeder of whom we know. She is not the product of indiscriminate matings, or of unknown pedigree, or flocks of a hundred head. We shall hail the day when some enterprising genius gives us a method by which the egg-producing value of a hen, or in fully as important measure—the cock, may be judged at



ALBERTA \$9.90 buys best 245 egg incubator.

\$6.65 buys best 245 Chick Brooder. This high grade hatcher is the result of our many years' successful construction and operation of them. Has heavy double walls, double glass doors, best hot water copper tank, safety lamp, nursery and self regulator complete for operation. Guaranteed and long trial. Write for free catalog. If in a hurry send price to save time.

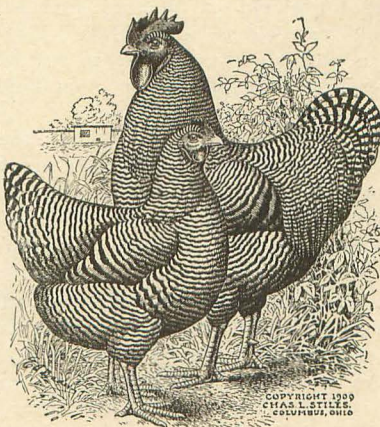
Alberta Incubator Co. Box 890 Mankato, Minn.



125 Egg Incubator and Brooder Both For \$10

Why pay more than our price? If ordered together we send both machines for \$10.00, and pay all the freight charges. Hot water, double walls, dead-air space between double glass doors, copper tanks and boilers, self-regulating. Nursery underneath the egg tray. Both Incubator and Brooder shipped complete, with thermometers, lamps, egg-testers—all ready to use when you receive them. All machines guaranteed. Incubators are finished in natural colors showing the high grade lumber used—no paint to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Send for the free catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 68, Racine, Wis.



Harty's Barred and White Rocks

100 Choice Birds for sale.

Prices on single Birds or Pens on application.

H. C. HARTY,

Bottineau, North Dakota

RAYO INCUBATOR

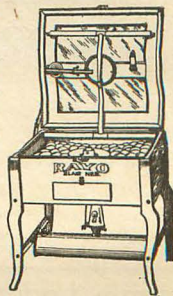
Many Superior Points

Requires 1 filling of tank—1 gallon of oil for entire hatch—Central heat gives equal radiation—Eggs always in sight—Turn eggs without removing nest shaped tray. Numberless testimonials prove Rayo is the best incubator on the market. Tell of 99% hatches Saves $\frac{2}{3}$ Cost of Hatch—Requires $\frac{1}{2}$ the Work to operate. Built on simple, common sense principles. We pay the freight. 70 day trial. Our iron-clad guarantee backs our claims. Write today for our free catalogue. A postal will bring it.

Write TODAY for our FREE CATALOGUE

RAYO INCUBATOR CO.,

St. Blair, Nebr.



HELP BOOST NORTH DAKOTA

our shows with even a small mite of consideration being given this part of the poultry business. This appears to be the part looked at first with about ninety-nine out of each one hundred commercial poultry keepers and a liberal number of fanciers as well.

Sunflower seed contains about 16 per cent of protein and 21 per cent of fat. It is nearly four times as fattening as corn and must therefore be fed with extreme caution. A small per cent of sunflower seed during the moulting season and in very cold weather is a good thing, but it does not do to overdo in feeding any good thing.

Attend your poultry show. If you can attend more than one go and do your part to encourage those who have spent their time and money in a good cause.

NO DEAD CAPITAL IN THE POULTRY BUSINESS

Mrs. B. F. Wilcoxon

There is no dead capital in the poultry business. A poultryman produces things which sell in any town. We will never see the time when poultry and eggs will not be in demand at profitable prices. Every year eggs and poultry are more valuable than before. The demand is greater and prices must keep on rising. If a poultryman wants to sell out his stock he can do so any day in the year. The hungry public buys our poultry products greedily and at any time. Don't expect to get rich in a year. Begin with a small flock or a few settings of eggs. Be content with small profits at first; try and pull ahead every year and you will soon be your own master. There are hundreds of city and town people who might keep a dozen or two hens and supply themselves with fresh eggs. Tablescraps are the very best egg food that can be found, and can be had for the asking of the neighbors who do not keep chickens.

Many a poultryman has grown up from a backyard poultry flock to a big poultry plant, because the experience in the backyard showed him how profitable poultry really was. Here is where he learns how to care for them. I have known of many cases where 500 broilers were raised on a small lot that would be too small for 100 hens.

The no-yard plan of keeping chickens can be followed profitable where one has small space. Many poultry keepers never let their fowls out during the winter and have a greater egg yield than where fowls are exposed to all kinds of weather. Many keep their

chickens year in and year out in their poultry houses. There are thousands of little flocks laying eggs regularly, which have never been outside a space that once was not thought big enough for one hen. Why not try a dozen hens in a small house and be convinced.

One big poultry plant containing 5,000 square feet of land keeps 600 hens the year thru and he makes enough from them that he can afford to put all of his time on them, and does not obtain the get-rich-quick prices either. Young chickens you will find do better when divided into small flocks and not allowed to wander into all kinds of danger.

MAINE EXPERIMENT STATION RATION FOR LAYING HENS

Wheat bran, 200 pounds.

Cornmeal, 100 pounds.

Wheat middlings, 100 pounds.

Gluten feed, 100 pounds.

Old process linseed meal, 100 pounds.

Fine ground beef scrap, 100 pounds.

This dry mash should be fed in hopper or box and never allowed to run out. At night feed a moderate handful to each hen of the whole grain mixture. I have found equal parts by measure of wheat, barley, cracked corn and heavy oats to prove satisfactory for summer use in the laying pens. There are sections where all grains are not to be had and a good dry mash can be made of three parts bran, three of cornmeal, one of dry cut hay or clover, one of good beef scrap. This is a good all-round feed for chicks of all ages over two weeks as well as adult birds. Equal parts wheat and cracked corn will answer for whole grain when other kinds are not to be had.

It is well to handle the laying stock so as to know what their body condition is from week to week. You may need to feed less cornmeal and increase the bran, or just the reverse, according as they are fat or thin. You want to get the hens into good market condition, and hold them there, so they can be sold whenever the moult begins.

An occasional change in grain will be welcome to the hens and even a "dash" of black pepper or ginger in the dry mash adds to the palatability. A generous feeding, good housing, freedom from vermin, upre air and water, should bring out of your hens an egg yield that will give a good round profit over all expense.—Western Poultry Journal.

Make Your Hens Lay More Eggs

I have a method that will make your hens lay every day; it never fails. Write for it,

MRS. B. F. WILCOXON,
Hillsdale, Wyo., Dept. 5

HELP BOOST NORTH DAKOTA

50 Best Paying Varieties Pure-Bred Chickens, Ducks, Geese, Turkeys, Eggs, Dogs and Incubators. All at Low Prices. Send 4c. for my Book which gives reliable information worth many dollars to you
W. A. WEBER, Box 926 Mankato, Minn.



BARRED ROCKS

Choice Stock and Fair Treatment.

ROBERT B. REED

Box 2.

Amenia, N. D.

White Crested Black Polish Chickens, Eggs \$3.50 for 15, Chicks \$7.50 a pair.

J. R. POLLOCK, Casselton, N. D.

Silver Wyandotte

COCKERELS \$1.00 each

Wyandotte Farm, Woods, N. D.

Partridge Wyandottes

"Hardi-breds," A breed

which combines good laying quality with the finest table quality, to say nothing of unexcelled beauty.

My birds are from the Hadaway flock direct and among them is a son of "Boston". They are blocky, well marked and of trap-nested ancestry.

Some stock for sale at reasonable prices. Eggs: \$3 per 15 or \$5 per 30. Cash with order.

GEO. J. CHILDS, Casselton, N. D.

HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns
Hillsboro, - North Dakota

EGGS for hatching from 26 leading varieties. Bronze and W. Holland Turkeys, Pekin ducks and chickens. Catalog free. L. GULDEN, OSAKIS, MINN.

MAMMOTH BRONZE TURKEYS

I have a few very fine toms for sale yet.

JOHN F. SIMON, Oberon, N. D.

MAMMOTH BRONZE TURKEYS

from winning stock
EDGEWOOD FARM, R. F. D. 2, Fargo, N. D.

S. C. W. LEGHORNS

Prize winners' stock for sale. Eggs a specialty. GEO. A. FOWLER,
Box 486, Casselton, N. D.

Rose Comb Black Minorcas

Eggs for sale, \$2 for 15 eggs.
C. WYSH, CASSELTON, N. D.

Thirty Prizes At State Show

White Barred and Buffed Rocks. First on Pens of these Farmers' Favorites. White and Buff Wyandottes Eggs from Price Pens \$2.00 per 13.

H. P. COOPER, Casselton.

SILVER LACED WYANDOTTES

Thoroughbred, Wide Open Laced, Big Utility Birds, Bred for Business. Tested Fertile Eggs for Hatching, 15 \$1.50; 30 \$2.75; 45 \$4.00; 100 \$8.00. Satisfaction Guaranteed.

Anthony Elm, Lansford, N. D.

WHITE WYANDOTTE eggs for sale from good stock.

M. C. JAMES, Valley City, N. D.

Seeds, Trees and Gardens

C. B. Waldron, N. D. A. C., Editor.

PROHIBITED SEEDS

H. L. Bolley, Botanist and State Seed Commissioner

I call your attention to the fact that the North Dakota Pure Seed Law prohibits the sale and distribution of agricultural seeds which contain the seeds of either Quack-grass, Canada Thistle, Sow-thistle, or of Dodder. Therefore in submitting samples of seeds for purchase in this state you will facilitate your work if you submit only samples which represent bulks of seed which you can furnish free from these types of weed seeds.

Our investigations show that Quack-grass seed is most commonly found in Brome Grass seed, Dodder in Alfalfa seed, and Canada Thistle seed in Canada Blue Grass seed. These sorts of forage seeds should, therefore, receive very careful scrutiny before being sent into North Dakota.

As the law was new on the books and as we desired to give everyone an opportunity to become familiar with its provisions we have not, in our various publications, or in our annual report published names of firms who have offered seeds in this state which were of low quality. We shall, however, during the present year, put the publicity clauses of the law into effect; and in order that the distribution of weed seeds shall be reduced to a minimum, we shall, in all cases of evident negligence or disregard of the law, have the parties concerned in the distribution of such seeds made responsible for the penalties as called for in the law whether they are agents for you, or dealers in and distributors of your seeds.

I would, therefore, respectfully suggest that you sell or submit for consideration in this state only such seeds as can meet this requirement.

A NEW ENTERPRISE

Flasher, N. D. on the new branch of the N. P. R. R. is the location of the North Dakota Nursery Co., now being incorporated by some of the foremost citizens of that locality. They are making a large planting of Forest Trees and Fruit Trees this spring. M. J. George the general manager, is a salesman of wide experience, both in the field and in the office. Their aim is to promote the fruit industry in this state. They will grow only such varieties as are extremely hardy. It pays to buy your trees as near as possible to the place where you intend planting them.

CAN WE GROW TREES

By Douglas Anderson

We want them if we can get them, of course, but the treelessness of the plains is so discouraging we wonder why nature has not grown them, if they can grow there. We might while in the same state of mind wonder why nature did not provide man with wings if he can fly? The same answer will do for both questions and it is simply this, Providence wants man to develop and improve by his own efforts. Things are arranged here in this world so that man will be tempted to do things and get a reward for doing them. This is a great broad, deep principle that we should never forget; that intelligent, thoughtful, careful, right-doing, gets the persimmons.

Now apply this to tree-planting. Take a run thru the bad lands as I did along the Missouri, north of Mandan, among the great bare, red buttes, where I felt as if old satin was waiting for me just around the next turn. I worked up my courage and got there and found—what?—as cosy a bunch of trees as one could wish for. I drove out two antelope and sat down in the shade and thought it all over. How can it be? What makes such a difference within such a few rods? Not climate, not buffalo, not rattlesnakes,—but there was a great difference in soil and ground moisture, so I wrote in my mental diary; don't plant trees on a bare clay butte, but select—alluvial soil that is reasonably moist.

Then I made a day-trip between Bismark and Fargo and saw those snow-breaks of cotton-wood and willow and boxelder that had been planted along nearly every curt and almost every one killed by fire or cattle. Then there was another entry in the diary—a double-entry this time, thus: most of this country will grow trees if they are protected against fire and cattle.

Last summer, in July, when it was so dry that wheat fields were burning over west of Winnipeg, I made the trip from Winnipeg to Calgary and saw the snow-breaks there of hardy bushes and trees, fresh and green, all the way to Calgary, which is near the foot of the mountains. There were three points noticable in them: the species were carefully selected from hardy native stock; they were protected against fire and cattle; they were cultivated. Now don't let those Canadians get ahead of us. They were making trees grow in soil and climate



Salzer's French Bean Coffee

(SOJA HISPIDA)

A wholesome drink! The healthiest ever; you can grow it in your own garden on a small patch 10 feet by 10, producing 50 lbs. or more. Ripens in Wisconsin in 90 days. Used in great quantities in France, Germany and all over Europe.

Send 15 cents in stamps and we will mail you a package giving full culture directions, as also our Mammoth seed catalog free; or send 31 cents and get, in addition to above, 10,000 kernels unsurpassable vegetable and flower seeds—enough for bushels of delicious, different vegetables and brilliant flowers.

JOHN A. SALZER SEED COMPANY
215 South 8th St. La Crosse Wis.

HELP BOOST NORTH DAKOTA

Strawberries From Seed

RIPE FRUIT IN 4 MONTHS

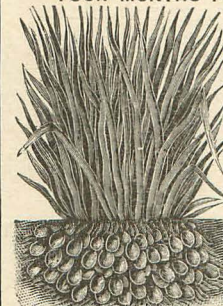


This Wonderful Everbearing Strawberry is a great curiosity. It grows rapidly, and will begin to fruit in about 4 months after sowing seeds, and continues to bear fruit constantly all summer and fall, 1/2 pint of berries having been picked from one plant as late as October. Seeds sown in the house in winter will produce early fruiting plants which will bear until late in fall, and if taken in the house will fruit all winter. Plants perfectly hardy everywhere.

For only 10c we will send 100 Everbearing Strawberry seeds in a 10c Rebate Envelope and when empty envelope will be accepted as 10c payment on any order for seeds in our 1911 Catalogue, which is included Free.
SMITH BROS. SEED CO., Box 637, AUBURN, N. Y.

Grows From Seed

FOUR MONTHS FROM PLANTING



A few Ground Almonds (Chufa) growing in your garden this year will give you a great deal of pleasure. Plant in Spring and you will get a crop in about four months. The nuts of fine flavor, resembling the coconut or almond; meat is snow white; shell thin, and great producer. One nut planted will produce from 100 to 200 nuts. Will grow in any soil or location.

To get new customers to test our seeds we will mail 50 Ground Almond nuts and 1911 Seed Catalogue with 10c. Due Bill, all for 10 cents. Send today and have something in your garden to surprise your neighbors.
MILLS SEED CO., Box 600, Washington, Iowa.

10,000 SEEDS 10c.

We want you to try our Prize Seeds this year and have selected 50 best varieties and put up 10,000 seeds especially to grow Prize Vegetables and Flowers. They will produce more than \$25. worth of Vegetables and 10 bushels of Flowers.

Seeds	Best Varieties	3 pkts.
2,600 " Lettuce	4 " "	4 " "
800 " Onion	2 " "	2 " "
1,000 " Radish	4 " "	4 " "
300 " Tomato	3 " "	3 " "
2,000 " Turnip	4 " "	4 " "
2,500 " Flowers	30 Grand Flowering Varieties	

In all 10,000 Seeds, and our new Seed Book with a 10c Credit Check good for 10c selection, postpaid, 10c.
FAIRVIEW SEED FARMS, Box 122, Syracuse, N. Y.

FISH'S NORTH DAKOTA TOMATO, bred in and for our climate. Unsurpassed in earliness and quality. Good size, Prolific. 100 seeds 25 cents.

S. E. FISH, VALLEY CITY, N. D.

HELP BOOST NORTH DAKOTA

Mention the North Dakota Farmer when answering advertisements.

like that of Montana, east of the mountains or worse. They did not select the most favorable places either, but planted on the hills where the cuts are.

Now use these pointers and get the benefits. It took years for me to get them together but here they are:

1. Select the most favorable land you have.
2. Select trees adapted to your own region—hardy natives from your own river valleys or, for evergreens, get Jack Pine from Minnesota, Black Hills spruce from South Dakota, Lodgepole Pine from Montana.
3. Protect from fire and cattle.
4. Cultivate, but not deeply.

If you have no land but bare buttes, alkali flats and gumbo, give it up and don't plant, for trees won't grow there. But if you have native bushes of any kind, or if you can grow potatoes and other vegetables, try some of these evergreens carefully.

SELECTION OF SEED CORN

By W. C. Palmer

Procure the seed as near home as possible, as this will be better adapted to the locality than that which comes from a distance. If corn can not be secured in the home locality than get it from a reliable seed company that can assure that the seed is northern grown and true to type. Secure the corn on the ear then there is a chance to do some selecting after the corn is brought and there is also then a chance to test the individual ears as described a little later. Always in selecting seed corn, select the best ears as the corn is all the time varying a little some a little better and some not so good. By selecting the best for seed it is possible to improve the quality from year to year. If no attempt is made to select the best for seed the chances are that the corn will deteriorate.

One way to test corn is to shell it first or to take say 100 kernels from the total amount of corn and to test these. Another and a better way is to test each ear. This may seem like a good deal of work but it will take only three or four hours to test a hundred ears and that is enough to plant five acres. A good way is to place the seed corn on a rack made of 2x8 with nails (6-penny finishing) driven into the plank which should be 40 inches long and fastened to a foot so that it will stand by itself. Mark off the side into two-inch squares and drive a nail in each one; also a nail on each end so as to make ten nails in a row around the plank. Number the nails. Slip the ear on to the nail which will easily

HELP BOOST NORTH DAKOTA



Yours FREE 30 Days

I'll Pay Freight Anywhere

Just let me send my Chatham Fanning Mill to your R. R. Station on a month's trial. No money, no contract and I pay the freight. Return at my expense or keep it and take a year to pay me. Just let me prove the money you can make with a

CHATHAM FANNING MILL and Seed Grader

Cleans and grades all kinds of seeds, grasses and grains. Don't grow weeds or thin stands. Land and taxes are too high. Double the crops, get better crops and have high-priced seed to sell. Send postal now for my factory price, liberal terms, and get **FREE BOOK No. 198**. Tells how thousands are making big, extra profits with a Chatham. Send your name by next mail.

Address Manson Campbell, Pres.,
MANSON CAMPBELL CO., Detroit, Mich.
 Kansas City, Mo.; St. Paul, Minn.; Seattle, Wash.



No Money Down

No Note

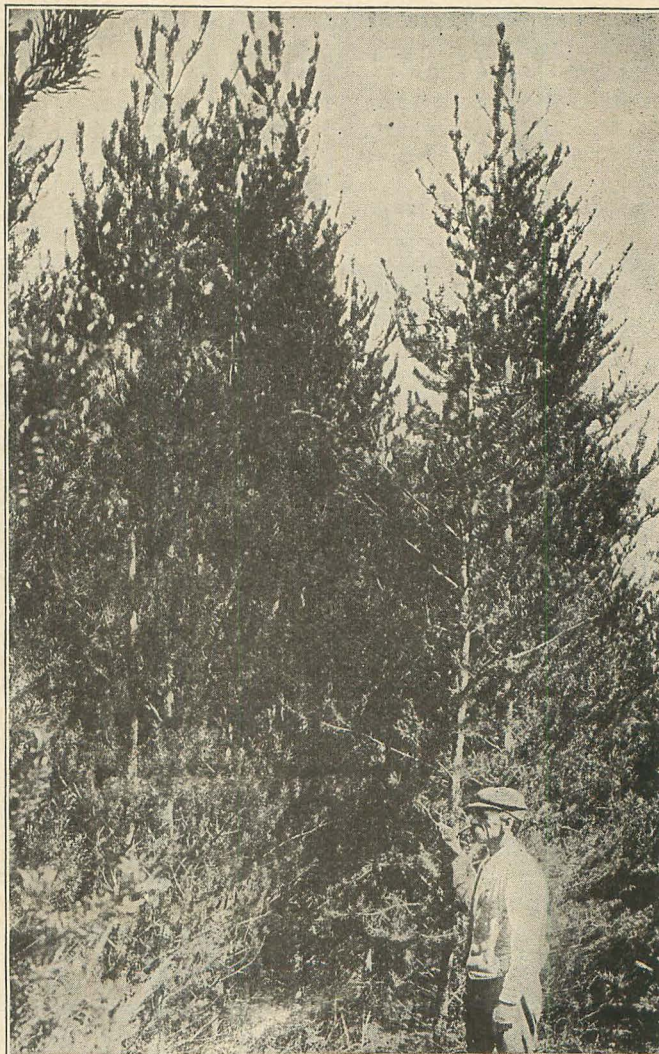
No Contract

17 Screens and Riddles
 Enough for Every Purpose

JACK PINE PLANTATION

(*Pinus divaricata*)

This photo shows part of the experimental plantation designed and established by B. E. Fernow when chief of the Forestry Division, U. S. Department of Agriculture. Many different species were planted, but Jack Pine did best of all.



This plantation is on very sandy land, where the sand drifts when sod is broken. The plants, when set, were seedlings about 10 inches high. They were supplied by

H. B. AYERS, of Kimbely, Minn.,

who now has a nursery devoted exclusively to the propagation of Jack Pine for prairie planting.

go into the pith. This is a splendid rack for drying the corn also. Then take a box 20 inches square and an inch deep; drive nails at intervals of two inches along the edges, run strings across dividing the box into two-inch squares; fill the box with soil. Then take ear number one, from it select but one kernel and one a little farther up; a third and a fourth still nearer the top and one tip kernel. Place them in one of the squares marked, one. Put the ear back on nail number one; and so on with the rest of the ears. Moisten the soil and set away for four days. Then examine the corn. It will be found that the corn in each square will all grow or none of it. When the kernels from an ear have not grown throw that ear out. It is no good and will simply mean that many empty hills or at least that many hills that will not have the full number of stalks in it.

A very important thing in corn-growing is to grow a variety that matures, this is what gives corn quality. The big corn that has soft ears has poor quality and has not the feeding value of that which is well-matured. The feeding value increases in the corn plant till maturity.

SEED TESTING

Without pure, vigorous seed, maximum crops can not be produced, no matter how perfect the seed bed, how fertile the soil and how wisely cultivated.

The general interest in better seeds is shown by the large number of samples received each year by the Department of Agriculture from farmers and even seedsmen, as well as by the number of states which have recently enacted laws to regulate the sale of seeds. The Federal Seed Laboratory examines for mechanical purity and germination, under certain limitations, all samples of seed sent in for that purpose, thus enabling farmers to know the quality of the seed they are offered before buying.


In comparative tests made with vegetable seeds for the past three years, the Department has found that the average germination of the seeds put up by the same firms has, with few exceptions, remained nearly constant. The different in the quality of the seeds sold by different firms, however, is surprisingly great, the average germination of seeds for three years from one firm being 37% and from another firm 81%.

BACTERIAL BROWN ROT

Recent experiments by the Bureau of Plant Industry of the Department of Agriculture, with the bacterial brown-rot of potatoes, tomatoes, tobacco, and egg plant have shown beyond doubt that

the organism enters the plant very readily thru broken roots, and for this reason it is recommended in transplanting tomatoes and other plants mentioned to use young plants and exercise great care not to injure the root system. A very considerable quantity of water appears to be necessary in the plant tissues in order to bring about infection. For this reason it is desirable to avoid planting on wet land where the growth will be extremely lush. If such lands are to be planted, they should first be underdrained. It is advisable also to avoid planting on land subject to root nematodes, since the organism is known to enter the roots thru wounds made by these worms.

A Postal Brings You This Book of 1,000 AMAZING SEED BARGAINS!



"Northern Grown Seeds"
The Nation's Encyclopedia of
Big-Value Seeds at Low Prices,
Now Sent Free for the Asking

Don't buy seeds anywhere
at any price until you have
consulted this Valuable Book!

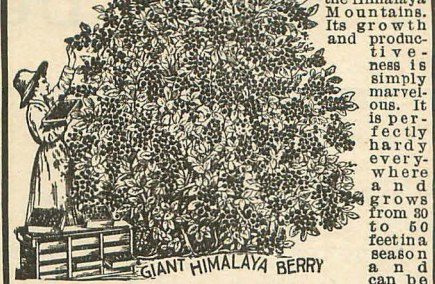
The products raised from May's
Seeds have a reputation on the
country's gardens and farms as the
best in the world! Vegetables, plants,
bulbs, fruit and trees. All the good
things for the garden and farm are
included in this book of tremendous
bargains—the prices are right.

This book is worth money to gardener
and farmer because it **saves them money!**
Don't delay—get the book by return mail.
A postal brings it **FREE**. Write today to

L. L. MAY & CO. **St. Paul, Minn.**

Greatest Of All Berries

ONE PLANT
FROM PHOTO
JULY 1910



This is the Greatest Berry the world has ever known, discovered in the Himalaya Mountains. Its growth and productivity is simply marvelous. It is perfectly hardy everywhere and grows from 30 to 50 feet in a season and can be trained on arbors or trellises of any kind.

The Engraving shows one Plant from photo July 1, 1910, which is trained to a large trellis loaded with fruit, and continued bearing until October.

The Fruit is black, almost coreless and the large luscious Berries borne in enormous clusters will literally melt in your mouth. It is unsurpassed for eating fresh, cooked, canned or preserved in any form and is the Greatest of all Berries for all Climates.

Everybody can and will grow this Great Berry for it is the easiest Fruit in the world to grow, is splendid for city people or any one with limited space, for it can be trained up from the ground like a tree producing Berries from 8 to 4 months, growing larger and producing more Fruit each year.

We guarantee this the Greatest of all new Fruits and can produce facts no one can get away from.

Beware of imitations. Giant Himalaya is a family by itself and highly valued wherever grown. The English Himalaya or Plants raised from seeds cannot be relied upon for fruit or hardness. Our plants are from tested parent stock. Complete satisfaction guaranteed.

Instructions for cultivation with a booklet of receipts for using in many ways free with all orders.

Strong plants 30c each, 3 for 60c, 6 for \$1.00, 15 for \$2.00, 25 for \$3.00, postpaid.

Our 1911 Catalogue of Vegetable and Flower Seeds, Plants and Rare New Fruits free with every order.

MILLS SEED HOUSE, Box 45, ROSE HILL, N. Y.

SEED FOR SALE

Pure Minnesota No. 163, Hard Wheat and No. 169 Bluestem, and North Dakota Agr. No. 155 Flax. \$1.75 per bushel including bags for wheat and \$3.25 per bushel for flax. Sample, 4 cents. H. EDLUND, Fertile, Minn.

WHAT 10c BRINGS YOU---P. 24



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Trees**

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SHADE TREES, EVERGREENS, SMALL FRUITS, FLOWERING SHRUBS and BULBS.
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Why pay tree agents 100 per cent additional to the grower's price? Why pay their livery, traveling and hotel expenses? We cut this out—give you the benefit and furnish you better trees—all the leading N. W. varieties, with perfect fibrous-root system, grown on our immense nursery.

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North
Dakota
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SEED CORN

Kiln Dried
Selected
and Tested

The best seed corn we have ever offered. It pays to plant the best and that is what you get when you buy from us. Order today—the supply is limited. We have a good stock of very high grade seed wheat, oats and barley.

Alfalfa, Clover, Timothy and grass seeds are scarce this year, but our stock is the very highest test and will prove their worth when harvest time comes. Your order should not be delayed if you want good seed. Send today for our 1911 seed catalog. It is free to you.

FARGO SEED HOUSE, Dealers in strictly high-grade seeds
FARGO, - - - NORTH DAKOTA

HELP BOOST NORTH DAKOTA

Home Department

DURUM WHEAT

I had 80 acres of durum wheat last year, but as it did not make a crop it was plowed under and dragged and the seed from the ripened grain made a good stand for a crop. Will this be likely to freeze out during the winter so that it would be safe to sow hard spring wheat on the ground next spring? I would not want to have mixed hard wheat and durum. Or would it be best to sow oats or barley?

Maddock, N. D.

J. A.

Answered by Prof. Shepperd

Replying to the inquiry of J. A. of Maddock, I will say that while the freeze of winter will be sure to kill all of the durum wheat that has sprouted from last year's crop, it would be very remarkable if there is not seed in the ground, that has laid over, which will sprout in the spring and give you a mixed crop if you sow any other sort of grain on it in 1911.

WHO CAN ANSWER?

Brother Farmer: Do you ever stop to figure what it costs to farm?

Let us take for example a half-section farm. I will be fair with you and use generally low figures, and raise a crop of wheat, barley, rye, oats or flax. They run very nearly alike.

Cost of Farm 320 A. (improved land at \$25.....)	\$8,000
Eight horses at \$150.....	1,200
One gang plow.....	75
One drag.....	18
One disc.....	30
One drill, 22 disc or shoe.....	130
One 8-foot binder.....	150
Two wagons at \$75.....	150
One hay-rack.....	10
One mower and hay-rake.....	75
One manure spreader.....	125
One buggy.....	100
Four set work harness at \$35.....	140
One driving harness.....	20
Total investment.....	\$10,223
Interest on investment at 7%.....	715
Taxes.....	60
Wages for farmer a year, board included.....	1,000
One man 7 mos. at \$50.....	350
Seed for 312 A. (5 A. road 3A. yard)	312
Twine.....	50
Threshing bill according to average yield.....	400
Board for Eight horses at \$75....	600
Repairs.....	50

Depreciation on \$2220 at 10% per annum..... 222

Total expense for each year.... 3,759

The unit cost per acre is \$12.25, so if you raise only $12\frac{1}{4}$ bu. per acre you must to make farming pay have \$1.00 per bu.; or, if you sell at .95 per bu., you must raise $12\frac{3}{4}$ bu. per acre; or, at .90 per bu., $13\frac{1}{2}$ bu. per acre; at .85, 14 bu. per acre; and at .80 a bu. you raise a little over 15 bu. per acre. North Dakota averaged $4\frac{1}{2}$ bu. per acre last year, so you should have had according to business rules \$2.75 per bu. Instead the average price is 90 cents, so you lost on last year's crop \$8.20 an acre; and, Mr. Farmer, you always will be the loser until you get organized and base the price upon the cost of production and then stick to it until a just reward for your labor is given. These are hard cold facts. Look them over carefully and tell me if I am wrong.

Figures don't lie.

Yours for cooperation,

Crosby, N. D. S. S. Semingson,

Receipts for Lent

Every receipt has been tried in North Dakota Homes

Salmon Loaf

Remove skin and bones from a can of salmon and break with a fork. Add 1 cupful crisp bread crumbs, juice of half a lemon, 2 eggs, 2 tablespoonfuls butter. Salt and red pepper to taste. Cover with a buttered paper, and bake nearly one hour.

Sauce for Loaf: One cupful boiling milk, oil from salmon, 1 large tablespoonful butter, 1 egg beaten well, juice of one lemon, 1 tablespoonful cornstarch, cayenne pepper to taste. Thicken the milk with the cornstarch. Add butter and oil, and lastly the egg. Remove from fire. Add lemon juice and pepper and pour around the loaf.

Baked Salmon

One can of salmon. Remove bones and oil. Mash fine with a fork, then take 7 or 8 crackers; roll fine. One cupful of milk; add crackers, a little butter, salt and pepper to taste. Mix with salmon. Bake 20 minutes and serve with a cream sauce.

Creamed Salmon

Make a plain cream sauce by rubbing together one tablespoonful butter and two of flour; then adding one cupful of

BUY A FARM

In Central Minnesota

Prices will surprise you, good soil, water, markets, roads, schools, churches, neighbors and not least "ALWAYS A GOOD TITLE"

Write, C. D. BAKER
FERGUS FALLS, MINNESOTA
for list of 100 farms



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Deal direct with the largest and oldest house in the West. Highest prices and immediate cash returns. Write for price list, tags and full information.

Guaranteed Fur Robes



THE PERFECTION FUR ROBE

This Label is your Positive Protection—It Means Satisfaction or Money-Back

When you buy a fur robe look closely for this label—it is your protection—it means your constant satisfaction.

Your dealer has—or can get—Perfection Brand Guaranteed Fur Robes. Insist on getting them—they wear best and are guaranteed for one year.

All robes have newly invented wear-proof border—and colored robes all have natural leather.

Look for the Yellow Guarantee Tag and woven label in each Robe as illustrated here.

Perfection Fur Robe Co.,
Manufacturers :: Chicago, Ill.

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ONE YEAR FOR TEN CENTS

Send 10 cts and names of ten of your neighbors who do not take the NORTH DAKOTA FARMER and we will extend your subscription one year

NORTH DAKOTA FARMER, Lisbon

FRESH FROZEN HERRING FOR SALE

Frozen Lake Superior Herring can be had from hundred pounds to tons at low prices. For prices write to: Severtson Bros., 1921 W. 2nd Street Duluth, Minn.



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TO EARN Your choice of 150 premiums for selling our **Keystone Easy-to-Thread Best Quality GOLD EYE NEEDLES** at 5c. a package. With every two packages we give **FREE** a **Silver Aluminum Thimble**. Send name and address. We send, postpaid, 24 needle packages and 24 thimbles with **LARGE PREMIUM BOOK**. When sold send us \$1.20 and receive premium entitled to, selected from premium list. Extra present **FREE** if ordered today. Address **Keystone Novelty Co., Box 715 Greenville, Pa.**



EVERY-BODY'S SAFETY RAZOR



PRINTING PRESS



CAMERA AND OUTFIT



FOUNTAIN PEN

When you write an advertiser tell him you saw his card in the North Dakota Farmer.

milk. Stir until thickened and smooth; then add 1 can of salmon which has been picked apart with a fork and from which the bones and skin have been removed. If made a little thinner this is very nice served on toast, hot crackers or shredded wheat biscuit.

Salmon with Eggs

Heat a can of salmon by setting it in a shallow pan of water (after having opened the can). Turn the salmon on to a hot platter; break it into rather coarse pieces and garnish with three or four hard-boiled eggs, sliced. Sprinkle with pepper, then pour over all two or three tablespoonfuls of melted butter.

Escalloped Salmon

Cover bottom of dish with crushed crackers, sprinkling with salt, pepper and butter. Then put in layer of salmon, alternating with cracker until the salmon is all in, leaving the top layer cracker. Cover generously with milk and let stand 5 minutes before putting in oven. Bake until a nice brown on top. Codfish may be escalloped with bread or cracker crumbs in the same manner as salmon.

Codfish Gravy

If codfish is desired for dinner, soak thoroly in tepid water in the morning; use 1 tablespoonful of flour to a pint of milk; let milk come to a boil and place in it the codfish, shredded; season well with butter and pepper, if desired; slice hard-boiled eggs into the mixture.

Codfish Balls

Mix thoroly 1 cupful finely chopped codfish (which has been soaked), three cupfuls mashed potatoes and one egg. Season nicely with salt and pepper. Mold into balls, roll in crumbs and fry a good brown.

Fish Omelet

Cook together 1 level tablespoonful each of butter and flour, and add gradually $\frac{1}{2}$ cupful hot milk and a little pepper. Pour sauce while hot over 1 cupful shredded codfish which has been parboiled and drained. Add 2 cupfuls cold-boiled potatoes chopped fine. Melt tablespoonful butter in spider, when hot pour in mixture, brown and double over before serving.

Eggs

For soft-boiled eggs drop into boiling water and boil 3 to $3\frac{1}{2}$ minutes. A better way is to have water boiling in a sauce pan. Take from fire, add eggs quickly cover and let stand off fire from 8 to 10 minutes, according to the freshness of eggs. Hard-boiled eggs should simmer at least 20 minutes. This gives the mealy yolks.

FOR SALE. Fairmead Farm adjoining town of Souris, containing 467 acres of choice land; good building, good water, easy terms; apply to owner

JOS. HEMBROFF, Souris, N. D.

Do You Want a Homestead on this Reservation?



FORT BERTHOLD RESERVATION TO OPEN THIS YEAR

This reservation comprises the best piece of public land adapted to intensive farming, that will ever be thrown open to Homesteaders. It will all make ideal farms. If you are interested in it send 25 cents in coin to Geo. J. Smith, United States Commissioner at Plaza, N. D. for his booklet telling all about the land and the opening, also valuable information on homestead law. Send today and leave no leaf unturned to get a quarter section of this "Last Choice Public Domain."

Farm for Sale at a Bargain

The Southwest Quarter of 3-160-88, Ward County, three miles Northeast of Kenmare and four miles from Norma. Has a good set of buildings, two-story seven-room house all finished with basement, two-story barn, granary and coal house, two good wells, nice grove of large trees, 25 acres in pasture, 130 acres under cultivation, mostly new land.

This farm is very nicely located in a good settlement one-half mile from school house. Adjoining one quarter for rent.

Price \$4200 if sold before April 1st. One-half cash.

F. W. FRIIS, Kenmare, N. D.

GALLOWAY SAVES YOU \$50 to \$300

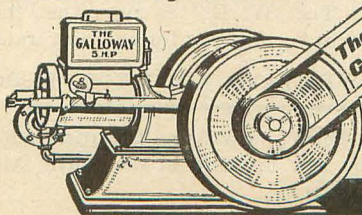
SAVE from \$50 to \$300 by buying your gasoline engine of 13½ to 28-H.P. from a real engine factory. Save dealer, jobber and catalogue house profit. No such offer as I make on the class of engine I sell has ever been made before in all Gasoline Engine history. Here is the secret and reason: I turn them out all alike by the thousands in my enormous modern factory, equipped with automatic machinery. I sell them direct to you for less money than some factories can make them at actual shop cost.

All you pay me for is actual raw material, labor and one small profit (and I buy my material in enormous quantities).

Anybody can afford and might just as well have a high grade engine when he can get in on a wholesale deal of this kind. I'm doing something that never was done before. Think of it! A price to you that is lower than dealers and jobbers can buy similar engines for, in carload lots, for spot cash.

An engine that is made so good in the factory that I will send it out anywhere in the U. S. without an expert to any inexperienced users, on 30 days' free trial, to test against any engine made of similar horse-power that sells for twice as much, and let him be the judge. **Sell your poorest horse and buy a**

5-H.-P. Only \$119.50



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Get Galloway's Biggest and Best FREE GASOLINE ENGINE BOOK

Write today for my beautiful new 50-page Engine Book in four colors, nothing like it ever printed before, full of valuable information, showing how I make them and how you can make more money with a gasoline engine on the farm. Write me—

Wm. Galloway, Pres., Wm. Galloway Co.
1335 Galloway Station, Waterloo, Iowa

INSTITUTES SCHEDULED FOR NORTH DAKOTA

Monango, Feb. 16.
Edgeley, Feb. 17.
Lisbon, Feb. 18.
Walhalla, Feb. 21.
Cavalier, Feb. 22 and 23.
Park River, Feb. 24 and 25.
Michigan, Feb. 28.
Devils Lake, March 1 and 2.

THE LAW AND THE BATH-TUB

With a population of some 31,000, largely made up of Hungarians, Roumanians, Lithuanians, Slavs, and Mexicans, huddled together in small frame huts, unsanitary, and without any provisions for baths or running water or even for any water at all; with as many as twenty persons sleeping in one room no more than twenty feet long, fifteen feet wide, and six feet high, in a city with no public baths, public health hung in the balance in Aurora. And these atrocious conditions existed among the foreign population thru no fault of their own, but because of the unclean quarters provided for them.

With an outbreak of disease threatening in consequence of these conditions, upon taking office Dr. Reder issued an order that every one should take a bath at least once a week, under pain of imprisonment.

Then he framed a set of rules and regulations for the promotion of public health and had them printed on cards in the various languages of the people living in Aurora. These were posted everywhere—in every room of every house or hut occupied by the poorer classes; and the people were notified that city officers would visit their homes each week to see that the rules were enforced. This was not all. Dr. Reder compelled the property-owners to provide water-basins, water, and, in many cases, bath-tubs for their poor and ignorant tenants.

When Dr. Reder issued the now famous "take-a-bath-once-a-week" order, Chief-of-Police Frank Michels started in to make room in the jail for an overflow of prisoners, but, to his astonishment, not a single arrest for failing to take a bath was necessary. So far there has been not a single prosecution, and it is not likely that there will be for failure to comply with the health orders.—Wendell Phillips Dodge.

When you have disagreeable medicine to take do not breathe until you have thoroly rinsed the mouth with water. You will not taste the medicine.

If those who are fond of eating that healthful vegetable, the onion, will chew a little dry tea after indulging, it will leave a pleasant taste and smell.



Mayer's

Martha Washington Comfort Shoes

Genuine comfort—that's what it means to wear the stylish Martha Washington Comfort Shoes.

They fit like a glove, and insure complete rest and relief. No buttons or laces—just slip them on and off like a slipper. Elastic at the sides provides perfect fit over any instep. You will never know how comfortable a good looking shoe can be until you have worn

MARTHA WASHINGTON COMFORT SHOES

Beware of imitations. Only the genuine have the name Martha Washington and Mayer Trade Mark stamped on the sole. Refuse substitutes. Your dealer will supply you; if not, write to us.

FREE—If you will send us the name of a dealer who does not handle Martha Washington Comfort Shoes, we will send you free, postpaid, a beautiful picture of Martha Washington, Size 15 x 20.

We also make Honorbilt Shoes for men, Leading Lady Shoes, Yerma Cushion Shoes, Special Merit School Shoes and Work Shoes.

F. Mayer Boot & Shoe Co.

MILWAUKEE, WIS.



MILWAUKEE
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FOR SALE-MISCELLANEOUS Private Sacrifice Sale

All my Household goods, etc., at Half Price. Everything practically new. One set each (20 volumes each) "CLASSIC TALES BY FAMOUS AUTHORS" and "MAKERS OF HISTORY," my fine Upright Piano and Piano Player, Phonograph and records, Fireless Cooker, Camera and variety of furniture. Must be sold. You never had a better chance for bargains. Write today.

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Cleveland, O. 1501 Columbus Rd. Box 804



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Westland Educator

For 1910-1911

Teachers will be glad to learn that nearly a score of writers are contributing the present school year.

The "W. E." is now the "best ever." Address for clubbing rates

WESTLAND EDUCATOR, LISBON

When you write an advertiser tell him you saw his card in the North Dakota Farmer

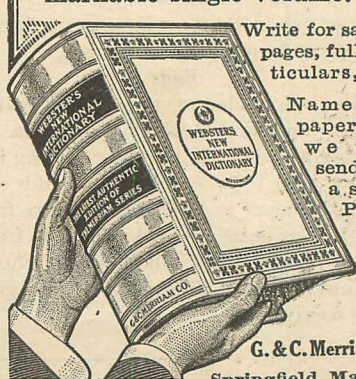
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WEBSTER'S NEW INTERNATIONAL DICTIONARY

The *Only* New unabridged dictionary in many years. Contains the *pith* and *essence* of an authoritative library. Covers every field of knowledge. An Encyclopedia in a single book.

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400,000 Words. 2700 Pages.
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Name this paper and we will send free a set of Pocket Maps

G. & C. Merriam Co.
Springfield, Mass.

You can't afford to miss one copy of the North Dakota Farmer—renew at once.

HOME DRESSMAKING



THE nightgown No. 3439 is for misses and girls. It is of plain sack shape and has a roll collar and sleeves that can be shortened. The sizes are for 2, 4, 6, 8, 10, 12, 14 and 16 years; the 8-year size requires $3\frac{3}{4}$ yards of 36-inch material with $2\frac{1}{2}$ yards of edging to trim. Price 10 cents.

Dress No. 3455 is of white repp cloth, the wide collar belt and sleeve bands hand-embroidered. The dress closes at the left side of the front panel and the skirt is straight, laid in plaits. The pattern includes short puffed sleeves and long plain ones. Linen, pique, gingham and other wash goods are suitable. The sizes are for 2, 4, 6, 8 and 10 years, the 6-year size requiring 4 yards of goods 27 inches wide. Price 15 cents.

The apron No. 3444 is entirely plain and the pattern provides for it also to have a low neck and shoulder-straps as shown in the small drawing below. The apron can be made of any material that could be used for a child's play

dress. It is in sizes for 2, 4, 6, 8 and 10 years, and the 6-year size requires 2 7-8 yards of material 27 inches wide. Price 10 cents.

Dress No. 2877 is of embroidered sheer batiste with insertion and edging. The pattern provides for full length or short puff sleeves, and the little frock is gathered to beading at the neck. Pattern sizes are for $\frac{1}{2}$, 1, 2, 4 and 6 years, the 2-year size requiring $2\frac{1}{2}$ yards of material 36 inches wide. Price 10 cents.

Dress No. 3301 is of white pique with a pink figure in it. Waist and skirt are in one piece with two tucks in each side of front and back stitched to waist depth, and it closes in the back. The dress can be made of plaid gingham, natural-color linen trimmed with red, chambray or other wash material. Sizes are 1, 2, 4 and 6 years, the 4-year size requiring $2\frac{3}{4}$ yards of material 27 inches wide. Price 10 cents.

No. 3199 is a one-piece dress for the small child and may be made of linen, pique, French flannel or cashmere. A shield is included. Sizes are for 2, 4, 6 and 8 years, the 4-year size requiring 3 3/8 yards of 27-inch material. Price 15 cents.

Dress No. 3564 is of French lawn with hand-embroidered yoke, baby Irish insertion and cluny edging. The body of the dress is laid in box-plaits, under which the sach passes thru button-holed slits. This is a pretty design for embroidered batiste, swiss and handkerchief linen. It closes in the back. Pattern sizes are for 2, 4, 6, 8 and 10 years, the 6-year size requiring 2 3/4 yards of 36-inch material. Price 15 cents. Embroidery design No. 1135, price 20 cents.

No. 3150 has the skirt made of deep flouncing and the pointed yoke and short puff sleeve are of plain lawn with swiss insertion and edging. The sizes are for 1, 2, 4, 6 and 8 years, the 4 year size requiring 1 1/4 yard of 27-inch flouncing and 1/2 yard of 36-inch plain material. Price 10 cents.

Dress No. 3559 is of blue linen with eyelet embroidery. It closes at the back under the box-plait. A belt crosses the back of the dress. Pattern sizes are for 2, 4, 6 and 8 years, the 4-year size requiring 3 1/2 yards of material 27 inches wide, with 1 1/2 yard of embroidered banding. Price 10 cents.

THE NORTH DAKOTA FARMER will supply its readers with perfect fitting seam allowing patterns from exclusive Paris designs—at the given price for each pattern. For ladies upper garments give bust measure, for skirt and under garments waist measure. For misses and children give age and size. All patterns are guaranteed a perfect figure.

All patterns sent prepaid at the given prices. The omission of any one of these particulars necessitates the delay of correspondence and further expense of postage. Canadian postage stamps will not be accepted.

Send all orders for patterns to Pattern Department, N. D. Farmer, Lisbon, N. D.

HERE, THERE AND EVERYWHERE

To clean a coffee pot after washing: fill with water and add a tablespoonful of baking soda. Let boil an hour or two on back of stove.

To remove egg stains from silver, rub with damp table salt or wash in potato water.

To prevent juicy pies from running over in the oven, wet a strip of cloth in cold water; lay around the edge firmly and remove when pie is baked.

Half a teaspoonful of sugar will often revive a dying fire.

Eggs

Break an egg into each well-buttered patty pan or muffin ring, cover with a teaspoonful of cream and bake until the white sets. If preferred, a small dripping pan may be used.

A poached egg served on a slice of nicely buttered toast is a good breakfast dish.

Add chopped hard-boiled eggs to cream gravy and serve on toast, or shredded wheat biscuit.

PATENTS START FACTORIES

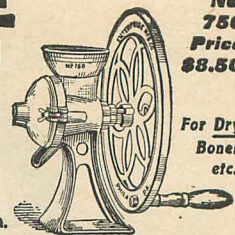
We Secure Patents. NO FEE IF WE FAIL. Start right. Free book—How to obtain, finance and promote patents. Send sketch or model for free search. FARNHAM & SUES, Pat. Attys., WASHINGTON, D. C.

ENTERPRISE

Bone, Shell and Corn Mill

A money-saver and money-maker. Cracked grain, ground bone and shell, increase egg production when fed properly. The "ENTERPRISE" Mill is a wonder. Strongly built, reliable, runs easily and won't get out of order. Grinds dry bones, corn, oyster and other shells, etc. Price of Mill shown, No. 750, is \$8.50. Weight, 60 lbs. Grinds 1 1/4 bushels of corn an hour. Hardware and general stores everywhere.

Catalogue FREE. Famous Recipe Book, "The Enterprising Housekeeper," for 4 cents in stamps. THE ENTERPRISE MFG. CO. OF PA., DEPT. 32, PHILADELPHIA, PA.



No. 750 Price \$8.50

For Dry Bones etc.



Here's a Guaranteed Poison to Kill Gophers Quick

GOPHERS cost you about 10 cents each and there are about 1000 of them in a 40-acre field. Here's how to save the big money that gophers—and other field pests—cost you. Get a box of Mickelson's Kill-Em-Quick. Follow the simple directions and look for results the very next day. Your money back if you are not satisfied.

Mickelson's Kill-Em-Quick is the **only** guaranteed Gopher Poison because it's the **only** one known to do the work, quickly and economically, with least attention. It has a very peculiar odor and taste that attracts gophers. This is the secret of its success.

Mickelson's Kill-Em-Quick Gopher Poison

is in a class by itself. Nothing even approaches it. Many farmers are trying in vain to rid their fields of profit-eating gophers with strychnine, because they don't know that Kill-Em-Quick is far

Better and More Economical Than Strychnine In Any Form

Here are the facts and figures. According to latest wholesale market reports, strychnine should sell for \$1.00 an ounce, which has a killing power of about .874 gophers. But strychnine needs lots of water to dissolve it and lots of grain to absorb it. So it is weak and ineffective. And it is excessively bitter. So gophers don't eat enough of it to kill them. Kill-Em-Quick is pleasing to the taste of gophers. And it is full strength on each grain. 75 cents worth of Kill-Em-Quick is sure death to 2,000 Gophers—**guaranteed**. Let me send you folders of facts for farmers. But ask your dealer for Kill-Em-Quick the next time you're in town.

Anton Mickelson, President

Mickelson Kill-Em-Quick Company

1429 Washington Ave., North

Minneapolis, Minnesota



Prices in Large Quantities

Farmer Equity Societies, Township Boards and County Commissioners will find it to their advantage to buy Kill-Em-Quick at following standard restricted prices:

No.	Pkgs.	75c Size	\$1.25 Size
12...	\$0.73 each..	\$1.20 each	
25...	.70	1.15	"
100...	.67	1.10	"
200...	.65	1.07	"
300...	.63	1.04	"
500...	.60	1.00	"

From Nursery to Planter

We offer to the planters of North Dakota a complete line of **FRUIT** and **FOREST TREES** adapted to this climate and soil.

WE GUARANTEE STOCK TO LIVE

OUR Plums, Cherries, Currants, Gooseberries, Willows and Poplars are the best you can buy.

QUALITY IS OUR WATCHWORD

WE have a limited amount of two-year old Asparagus, Rhubarb and Horse Radish, well-rooted and fine.

ONCE A CUSTOMER, ALWAYS ONE

Let us quote you prices on any amount of stock you may need.

North Dakota Nursery Co.

Box 162

Flasher, N. D.

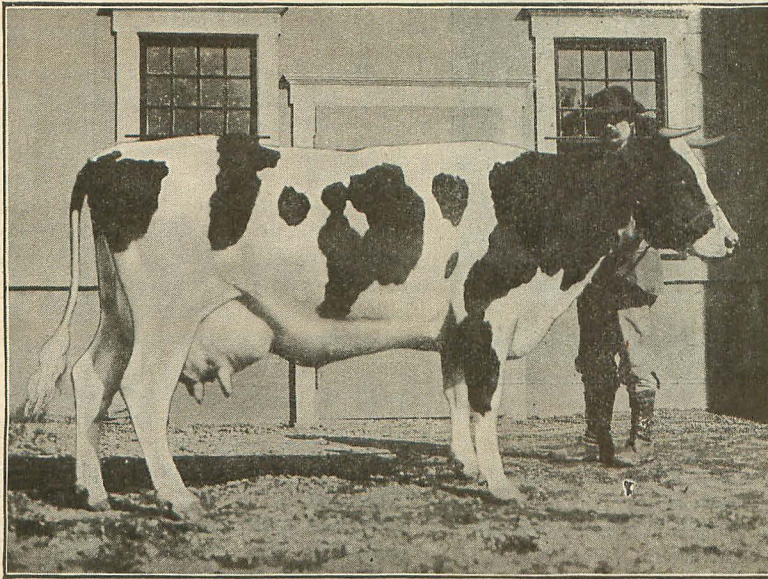
Elementary Agriculture

McNeal. C. James, Editor

DAIRYING

There are several reasons why dairying should receive very much attention in this state. The country is quite well adapted to this kind of farming, and if the fertility of the soil is maintained, a more diversified farming must be practised. That is the farmer must grow a larger variety of crops, feed more of them on the farm and apply the manure to the land. The time will soon be when the one crop system, now so common, will give way to a pretty definite rotation of crops. Corn, alfalfa, and red clover will be some of the crops which will be more generally used. These will make splendid feeds for dairy cows.

on exactly the same kind of food, and cared for in exactly the same way. Each cow was allowed to eat all she wanted. Every pound of food taken by each has been kept account of. All the milk from each has been weighed and tested for three years. Equal amounts of food in the one case made 188 pounds of butterfat, while in the other 100 pounds. Counting the butterfat the average price at Elgin, 23 cents a pound, Gold made a profit of \$34.59 each year while Gilt lacked \$5.62 of paying for her feed. On further investigation it was found that these cows were not exceptional but that there were many cows in the state as good as the first and many which were as good for nothing as the second.



The Holtsein, Unexcelled in Quantity of Milk Production.

Dairying is proving a paying business in many parts of the state. In order that it be most profitable, three things are quite necessary:

1. Good cows.
2. Proper feed and care of them.
3. Proper care of milk.

The quality of the cows in a dairy herd is exceedingly important. These cows should be well bred animals of one of the dairy bred type.

This, however, does not insure a good animal. Cows differ very much in their power to produce milk and butterfat. For example the Illinois College of Agriculture bought two cows, Gilt and Gold, from the same herd near Elgin, Illinois, and took them to the experiment station. Here they have been fed

This same thing is doubtless true of the cows in North Dakota. Many of them are not paying for their board. In order to tell which cows are profitable ones in a herd it is necessary to weigh the milk of each cow. This will show the amount of milk she produces. But this does not tell all: it is also necessary to know how much butterfat she is producing. Dr. Babcock of the Wisconsin experiment station invented a machine by which it is quite easy to test milk to find the amount of butter fat it contains. Cows differ in the richness of milk. Some give milk with 2% butterfat while others produce as high as 7 to 8%. 4 to 4½% is a good average test.

After one has weeded out the poor cows he must then feed the good ones

44 Bushels to the Acre

is a heavy yield, but that's what John Kennedy of Edmonton, Alberta, Western Canada, got from 40 acres of Spring Wheat in 1910. Reports from other districts in that province showed other excellent results—such as 4,000 bushels of wheat from 120 acres, or 33½ bushels per acre. 25, 30 and 40 bushel yields were numerous. As high as 132 bushels of oats to the acre were threshed from Alberta fields.



THE SILVER CUP

at the recent Spokane Fair was awarded to the Alberta Government for its exhibit of grains, grasses and vegetables. Reports of excellent yields for 1910 come also from Saskatchewan and Manitoba in Western Canada.

Free Homesteads of 160 acres, and adjoining pre-emptions of 160 acres (at \$3 per acre), are to be had in the choicest districts.

Schools convenient, climate excellent, soil of the very best, railways close at hand, building lumber cheap, fuel easy to get and reasonable in price, water easily procured, mixed farming a success.

Write as to best place for settlement, settlers' low railway rates, pamphlet "Last Best West" and other information, to Supt. of Immig., Ottawa, Can., or to Can. Gov't Agt. (54)

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Latest! Special Offers, Page 2

properly in order to get good results. While there are a great many different kinds of feeds, there are only a few what we call food principles, or compounds, which are contained in them. These are:

1. Water.
2. Protein.
3. Carbohydrates.
4. Fats.
5. Mineral matter.

Each one of these has a certain kind of work to do in the animal body. Water is needed to help dissolve and carry the food to the different parts of the body. It also makes up about 55% of the total weight of the animal body. In order to keep up the circulation of the body, to

cells must be rebuilt as soon as destroyed or enough would in a short time be destroyed to kill the animal. This repairing is done by the protein eaten. The curd of milk or the white of an egg is a good example of this kind of food stuff.

The bones, hoofs and even a part of the flesh is composed of mineral matter. This too must be supplied in the food. Hence, in order to supply the needs of the animal body, the food must contain each of the stuffs given above. Besides the milk contains each of these. If one expects to get milk from the cow he must supply her with food which contains these different food principles in proper amounts.

sheltered, in a clean, well-ventilated barn. If the dairy cow does not get fresh air she will not be healthy. She must be milked at regular hours, and be kindly treated at milking time, for she has much control over the flow of milk and can and often does hold back a part of it. She should always be milked dry.

It is very necessary that the milk should always be handled carefully by clean persons. If for any reason the milk becomes unclean it always sours quickly on account of germs or bacteria as they are called. Besides the milk may be the means of carrying some dangerous disease to human being or animals. Typhoid fever is often carried in this way to people; Bovine Tuberculosis may be carried to calves or pigs by milk.

References

- Warren. Pages 334-337-345-349.
N. Dak. Bul. No. 16.
N. Dak. Farmer's Inst. Report for 1908. Pages 169-180.
Farmer's Bul. No. 22, 29, 42, 106, 63, 149, 201, 241, 291, 55.

PAINT NOTES

Mixed paints are almost a necessity. Since they may be easily matched in color and are most convenient to handle, it is no wonder they have attained such popularity.

It is poor economy to employ cheap labor in painting your buildings as the lasting qualities of your paint largely depend upon the manner in which the paint has been applied.

Lumber as it now appears on the market is in very poor condition for painting. In covering new lumber be sure to use the primer very thin. Thoroughly brush it in and allow it to become perfectly dry before applying another coat.

Peeling is in a large measure due to moisture. If the surface is painted at such intervals that the old coats do not wear away, it becomes so thick that it can not expand or contract with the surface and consequently tears away.

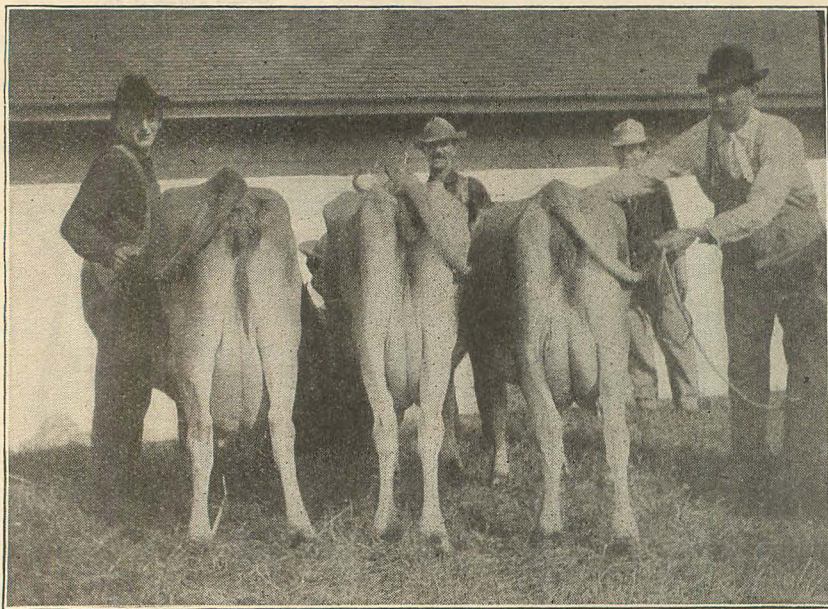
A raw oil is gradually taken the place of boiled oil since it is about as durable and is less liable to be adulterated.

Do not be satisfied with two coats of paint. A good priming coat thoroughly brushed in should precede the two subsequent coats.

Moisture is always present in green lumber and in old work after a heavy rain or dew, hence see that the surface is absolutely dry before painting.

As we have often stated before: Select with care your painter and a stand and paint, be sure the surface is in good shape and we prophecy a lasting job and a paying investment.

HELP BOOST NORTH DAKOTA



A Type that can not be Excelled for Butterfat.

keep up the processes of breathing and digestion much energy is required. The act of standing or moving about uses up energy. This energy is supplied mainly by the carbohydrates. Sugar and starch are examples of this foodstuff.

The thermometer often registers a temperature of 30 degrees below zero in the winter time in our state. The temperature of the cow's body is about 100 degrees above zero; this means that there is a difference of nearly 130 degrees between the animal's body and the outside atmosphere. To maintain this difference in temperature a large amount of energy in the form of heat is required. This is furnished to the animal body mainly by the fats. The carbohydrates, however, can do the work of the fats if there is not enough fats supplied to the animal. In like manner the fats can take the place of carbohydrates. While this is true, each can do its own work best.

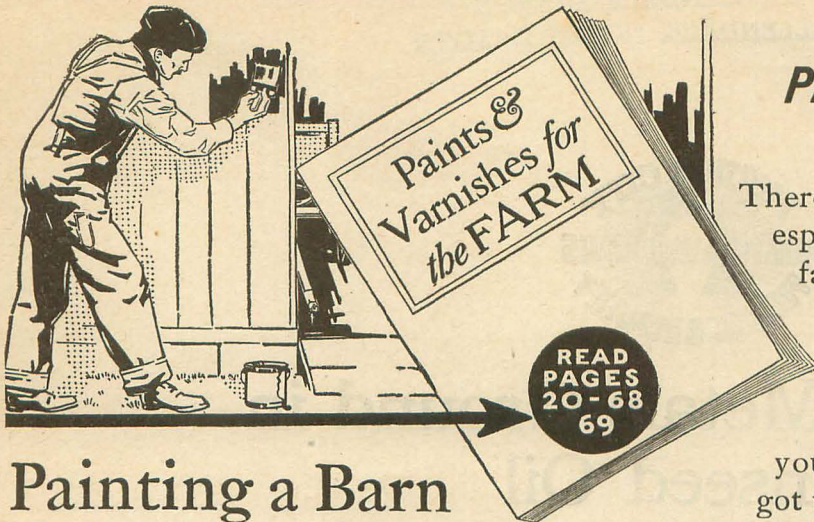
Any of the bodily movements named above destroy cells of the body. These

Our ordinary foods fed to the cow usually contain enough mineral matter especially when salt, a good example of mineral, is supplied. Water is supplied by itself. The one food principle that is often deficient in the ration is protein. For any given animal, experimenters have found that it will do its best work when there is a certain relation between the amount of protein and that of carbohydrates plus the fats that it is fed. When this is fed the animal is said to be receiving a balanced ration.

The following hays and grains contain much carbohydrates and fats in proportion to the protein:

Timothy hay	Brome grass	Corn
Oats straw	Corn fodder	Barley
These are quite rich in protein:		
Alfalfa	Oats	
Red Clover	Wheat	
Mixed Hay	Field Peas	
Pea and Oats Hay	Wheat Bran	
Wheat Shorts		

Besides being well fed the dairy cow must be handled with kindness, well



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